Request for Proposals
Part C[*]

King County

Department of Executive Services
Finance and Business Operations Division
Procurement and Contract Services Section
206-684-1681   TTY Relay: 711

RFP - Transit IVR System
Part C

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Appendices:

- Metro's Rider Information System
  http://www.metrokc.gov/extranet/procurement/2006/April/GoodsAndServices/05-136/05-136_AppendixA.pdf (PDF, 776KB)

- Examples of Detail Views
  http://www.metrokc.gov/extranet/procurement/2006/April/GoodsAndServices/05-136/05-136_AppendixB.pdf (PDF, 238KB)

- Description of Transit Enterprise Database (TED) Subject Areas and Tables
  http://www.metrokc.gov/extranet/procurement/2006/April/GoodsAndServices/05-136/05-136_AppendixC.pdf (PDF, 102KB)

SECTION 1	STATEMENT OF WORK

1. Project Overview

1.1 Project Overview

This project is intended to create the foundation and ongoing maintenance capabilities for a Transit interactive voice response system (hereinafter IVR System), to be accessed via public telephone numbers. The phases of this project include implementation design, installation, configuration, testing, and production deployment of a single mode, fully populated base system. Other aspects include project planning, training, and development of the data interface in collaboration with King County Transit IT. The objectives of the project are to provide the public an accurate means of obtaining transit information via telephone, to provide the internal transit administrators with tools and procedures to effectively manage the required information, and to ensure a technologically maintainable and supportable system.

Long term project goals include:

- Ensure accurate and timely incorporation of transit data for public use via telephone.

- Provide a system that is fully maintainable with procedures for recovering from hardware or software failures.

- Provide for future expansion of the system to incorporate multi-division travel, enhanced trip information, and to expand the voice capabilities of the system. Such future Work may or may not be included in the initial contract.

1.2 General Project Information

General project information is contained below.

Description	Value
Project Name	King County Metro Transit IVR System
Project Location	Seattle, WA
Estimated Implementation Start Date	11/15/06
Estimated Completion Date	4/15/07
IVR Project Manager	Kathryn Gish
Product Manager	Gayle Torgerson
Project Size	Medium

1.3 Contractor Responsibilities

The Contractor shall be responsible for supplying hardware and software, technical support and warranty coverage of implemented software; software installation, configuration, testing, documentation, and integration planning and coordination. The Contractor shall not be relieved of its obligation to Provide a completely integrated system if the County creates interface programs.

The Contractor shall be responsible for implementation of the Work described in the Scope of Work. The County shall Accept the Work Product for roll out only after successful Acceptance tests are performed.

1.4 Methodology

A. **Project Management**

Contractor will provide a Project Manager as primary point of contact for the duration of the project.

B. **Project Status Reports**

Contractor shall provide the Transit IVR System Project Manager (herein after IVR Project Manager) with a weekly status report. This report shall include any updates to the schedule; tasks accomplished during the previous week; deliverables for review; planned tasks that were not accomplished; and tasks to be accomplished the next week.

After the design is accepted and the system implementation begins, the IVR project team will be working closely with the Contractor and a weekly combined project report shall be developed by Contractor and IVR Project Manager for delivery to the Rider Information Systems Steering Committee.

1.5 Project Status

Contractor and IVR Project Manager shall correspond on a weekly basis to identify and review project status and address any risks or issues.

2. Project Scope

2.1 Areas within Scope

Contractor shall work with the IVR Project Manager to validate the existing requirements and project schedule.

Contractor shall work with the County resources allocated to set up and test the environments in which the IVR System shall be deployed.

Contractor, working along with the County staff, shall be responsible for the installation, configuration, initial site development & implementation, testing/QA, and deployment of the IVR System in the production environment. This effort shall be based on the requirements as outlined in the existing Transit IVR System technical requirements and related documentation.

Contractor shall work closely with IVR administrative resources that are allocated to the project to ensure complete knowledge transfer of the solution implementation that Contractor was directly involved in implementing. This shall be delivered through hands-on project involvement in the installation, development, configuration, design, and project development.

In preparation for transitioning the system to full KCM management, Contractor shall produce transitional documentation at the close of the implementation phase that shall include:

- Hardware configuration for test and production servers.
- Operating system configuration for test and production environments.
- Software configuration for the test and production servers.
- Implementation details for the transition to a production environment.
- Procedures for maintaining the system.

- All project source files (scripts, templates, pre-recorded voice, etc.), configuration details and settings.

- Administration Guide detailing how to maintain health and stability of the solution.

- Revisions (if any) to the original designs that occurred through the course of the implementation (an as-is view of the final implementation).

- List of third party software and versions including licenses.

2.2 Base System

For purposes of sizing and setting up the base IVR System, the following current parameters shall be used as guidelines.

2.2.1 Administrative Access Set Up

The IVR System shall provide secure access for no less than two administrators, and one reports administrator.

2.2.2 Call Volumes and Usage

The current 24 x 7 IVR System answers 3,000-4,000 customer calls on a normal weekday, and less on weekends. The majority of weekday calls occur between 9:00am and 4:00pm. The number of calls per T1 per hour ranges from zero (0) to approximately 750. Approximately 75% of the current calls transfer within one (1) minute to KCM's Rider Information Office. On average, calls that utilize the automated scheduled bus departure options complete within 140 seconds.

The IVR System shall accommodate the current call volumes and usage plus an 8% call increase and any associated increases in processing without compromising performance.

2.2.3 Call Transfers

The IVR System shall accommodate call transfers to KCM's Rider Information Office, Customer Assistance Office, and Lost and Found Office, each of which has a separate telephone number.

2.2.4 IVR Vocabulary

There are currently approximately 17,000 total vocabulary files, distributed as shown below:

- At least 2,000 Destinations

- At least 2,000 On-Streets

- At least 7,500 At-Streets/Landmarks/Locations (including Major Boarding Points)

- Additional 5,000 Miscellaneous words, numbers, phrases, Public Service Announcements

The IVR System shall include provision for all vocabulary needed to provide functionality as described in these requirements, along with any increase in vocabulary required to support growth in transit service as described in Paragraph 0.

2.2.5 Transit Service

The current transit service provided by KCM includes approximately:

- 300 Routes (numbers)

- 12,000 active Transit Bus Stops

- 1,500 Service Patterns

- 3,000 active Timepoints

- 4,000-5,000 Timepoint Interchanges (TPI's)

- 1,300 weekday Peak Hour Buses in service

- 12,000 Trips per Weekday, 7,500 Trips per Saturday and 5,500 Trips per Sunday

- 100 Million Passenger Trips per year

The IVR System shall include all of the transit service current at time of production implementation, and accommodate an expected transit service increase as shown:

- Up to 400 Routes (numbers)

- Up to 13,000 active Transit Bus Stops

- 2,000 Service Patterns

- 4,000 active Timepoints

- Up to 8,000 Timepoint Interchanges (TPI's)

- Approximately 1,500 weekday Peak Hour Buses in service

- Approximately 120 Million Passenger Trips per year

3. Work Description

3.1 Project Process

Below are the major milestones, deliverables and development areas of the Transit IVR System project. Deliverables described below are not in chronological order, but represent distinct bodies of work. All Work must be Accepted by County before payment.

Payment shall be made according to "Part B Section 2.4: Payment" at the completion of each major milestone defined below but only after the Project Sponsor, IVR Product Manager and IVR Project Manager agree that the desired deliverables have been successfully completed.

Any change in scope or requirements shall require a change order that provides the new Scope of Work, cost and schedule estimates.

The project is targeted for completion within four months of kickoff. The Contractor shall provide a tentative schedule with the proposal. The timeline should show work overlaps and dependencies to meet deliverables. A comprehensive project schedule shall be submitted upon contract agreement.

Contractor shall be responsible for the installation, configuration, testing, deployment and documentation of the solution. Contractor shall provide skilled and knowledgeable resources with the appropriate skills to build the solution environment required to complete the IVR System implementation.

3.2 Key Milestones and Deliverables

The Contractor shall develop the following key deliverables; however, other interim deliverables may be created during the process.

Deliverable 1: IVR Implementation Design

The Contractor shall prepare and submit the IVR System design and implementation plan to the IVR Project Manager for review and approval prior to any installation. The plan shall include at least the following components:

- Project Plan and Schedule

- System Architecture for production and test environments, including telephony components

- Spoken Menu Structure

- Base Configuration of Administrative tools and default parameters

- Data import and export design including integration plan and design

- Test and Training Plans

- Installation and Production Deployment Plan

Deliverable 2: System Installation

The Contractor, with KCM assistance, shall install the test system and contracted software, meeting County requirements for security and stability. KCM will implement monitoring, backup and security software as identified in the Technology Requirements.

Deliverable 3: Base / Test System Configuration and Data Population

The Contractor, with KCM collaboration, shall configure the test system to include:

- At least two, single mode, fully-populated transit data sets

- Fully-layered, structured voice menus

- All required speech data to support required functionality

- All required system data to support required functionality

- Telephony connections via at least two phone lines

- Administrator accounts, access and permissions setup

Milestone 1: System Implemented (50% billable)

Deliverable 4: Test Execution

Testing shall be performed according to the Test Plan and shall consist of, but is not limited to the following areas:

- Integration Test to validate transit data import and export requirements

- Interface Test (Administrative User) to verify administrative functions

- User Test (Customer Perspective, including customers with disabilities) to verify ease-of-use and functionality

- Operational Test to validate backup, recovery and failure recovery procedures

- Data analysis procedures to demonstrate successful operation of all functionality over time.

The Contractor shall administer QA/Testing and document results to ensure that all system components and procedures work properly. Testing shall require approval from a number of KCM stakeholders.

Deliverable 5: Production Deployment

The production deployment shall consist of connecting the fully functional system to the public phone lines and performing re-test on the customer interface to ensure proper operations prior to disconnecting the old system. KCM will be responsible for equipment removal of the old system.

Deliverable 6: Documentation

The Contractor shall provide King County Metro with documentation necessary to effectively fulfill all of the system roles (IVR administration, operations and maintenance, etc.) Documentation includes but is not limited to:

- All Project documentation (plans, status, design, architecture, etc.)
- All Build instructions
- User (Administrator) documentation
- Technical Support documentation (Maintenance plans, Update plans, etc.)
- Examples and samples.

Deliverable 7: Training

The Contractor shall train the IVR administrators to enable them to fully manage and maintain the IVR System.

Milestone 2: Production System (50% billable)

Deliverable 8: Production Acceptance

Production Acceptance shall be performed with all components and subsystems completely functional, operational, on line and in service. KCM will monitor to ensure appropriate functioning of the IVR System from an administrative and customer standpoint. Contractor shall provide system reliability and usability metrics showing the performance. During Acceptance, Contractor shall provide standard support according to the warranty.

Milestone 3: Final acceptance

4. Project Assumptions

The following assumptions shall hold for both the Contractor and the IVR project team for the duration of the project:

There shall be a back up and storage plan for all project documents, data, hardware and configuration specifics providing for no greater than 24 hours of potential loss.

The standard work day for the project shall be between 8:30 AM and 5:00 PM, Monday through Friday Pacific Time, except for scheduled holidays.

KCM will provide conference rooms for consulting sessions. KCM will provide limited work space with network access for periods of onsite consulting.

Temporary card access to buildings will be provided to the Contractor's team members for on-site work.

The implementation will be scheduled as to accommodate any major transit service changes, expected to occur in February, June and September. Implementation into production will occur no later than three weeks prior to a service change and no sooner than one week post service change.

Success criteria shall be established between the Contractor and the IVR project team prior to contract completion, and deliverable review and sign-off processes must be put in place to facilitate conclusion of each phase/milestone.

An escalation path shall be in place for resolution of technical and project organizational issues.

5. **Roles And Team Structure**

To properly address the resource requirements and for the purposes of meeting delivery target dates communicated by the IVR Project Manager a highly skilled and efficient team structure be established for the project. The following roles have been identified.

KCM IVR Project Manager – The IVR Project Manager will have oversight over the entire project effort. In this capacity, the IVR Project Manager will work to ensure that KCM's interests are met and that the right internal resources and plans are put in place for a successful implementation. The IVR Project Manager reports directly to the Rider Information Steering Committee and stakeholders to ensure project controls and project progress in meeting the goals and objectives of the project.

KCM Transit Technical Support – KCM transit technical support personnel will provide support for the project including assisting with identification of specific transit data elements required, and completing interface design and build.

KCM IVR Administrators – KCM transit experts will be involved in identifying the data organization and development for the initial implementation including menu structures, defaults, parameters, and custom data creation.

KCM Infrastructure IT – KCM transit IT personnel will be responsible for assisting the Contractor with installing and configuring all servers, including network connections within the King County Metro technical environment, along with installation and setup of King County provided software on IVR System servers.

Contractor Project Manager – The Contractor Project Manager shall be responsible for ensuring that the Contractor team is actively progressing toward project objectives and is accountable for the completion of tasks assigned to the Contractor team. The Contractor Project Manager shall discuss the project regularly with the IVR Project Manager, prepare the Contractor project status reports, and participate in status meetings.

Contractor system expert(s) – The Contractor system expert(s) ensures that all activities associated with the system comply with the solution requirements and follow the correct standards and best-practices for implementation. This role reports directly to the Contractor, or may be the same person. System experts report on progress, identify any issues or constraints, and work with the project team to complete the implementation and present technical solutions to issues that may be identified over the course of the implementation. System experts ensure that all activities associated to the user and administrator interfaces comply with the solution design and follow the correct standards and best-practices for implementation

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SECTION 2   REQUIREMENTS

The Contractor shall provide a completely installed, fully functioning Interactive Voice Response System for King County Metro (henceforth, KCM.) Any errors or omissions in these requirements do not in any way relieve the Contractor from this responsibility.

All IVR System requirements are for 'out-of-the-box' functionality. If a requirement can only be met with additional effort, tools or products, this shall be clearly spelled out in the response, including any associated pricing information.

Proposers shall respond to all items. If an item does not include specific response instructions, indicate whether the system or Proposer can meet the requirement (Yes or No), and include any relevant details.

Proposer shall include clear specification of data element sources, whether from KCM's data, manually created, or automatically generated within the IVR system.

The Proposer shall respond to all requirements using Part C Section 3. If a response requires additional exhibits or appendices, reference these in the "Contractor Response" field in Part C Section 3 and attach to the final proposal.

Next to the title of each requirement is an indication of the requirement's current rating, indicated as follows:

(R) = Required. The feature must be provided with the system.

(SD) = Strongly Desired. The feature should be provided with the system.

(D) = Desired. The feature is beneficial but not necessary.

(O) = Optional. The item is not necessary as part of the base system, but may provide benefit to the users, to the implementation or to future enhancements to the system. Any optional items that are not features of the base system (whether identified as optional by KCM or not) must be completely separately priced and any benefits fully explained.

TECHNICAL SPECIFICATIONS

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1. **Customer Interface (R)**

    The customer interface shall consist of voice prompts to which the customer may respond by phone touch-tone key selection. The customer may also be referred to as the "caller." The voice menu shall provide 24 hour per day (24 x 7) transit customer access to the voice menu system.

    1.1 Current System Usage (SD)

    Current KCM IVR System customers are accustomed to the existing menu structure and information provided. See Appendix A for the current menu flow. In order to minimize the customer learning curve, KCM prefers a similar structure for the proposed IVR System. However, Proposer is encouraged to recommend and provide KCM with changes that optimize or that may enhance the customer experience.

    1.2 Voice System Usability (R)

    For the IVR System to be successful, transit customers will be able to depend on it as a consistently reliable, accurate source of transit data and information that directly supports their ability to use KCM's services and products. Customers will range from first-time transit users to

experienced transit customers; the system should present an accessible, encouraging and non-threatening interface.

Wherever possible, customers should be shielded from the complexities of transit schedule data and the details of the underlying system. The IVR System shall therefore meet a high standard of usability including:

- a clear, low-depth structure

- error-resistance, and fault-tolerance from the customer perspective

- consistency in touch-tone responses

Proposer shall submit a voice system call flow or menu structure diagram describing their solution to KCM's customer interface requirements. In Part C Section 3, responses to all paragraphs under **"Customer Interface"** shall reference the menu section(s) related to the requirement if applicable.

1.2.1   First Level Message (R)

The IVR System shall be designed such that a welcoming message shall be the first response to incoming callers. This message has no dependency on transit data.

1.2.2   Optional Message (R)

It must be possible for an additional optional message to be spoken after the welcome message. This message has no dependency on transit data.

1.2.3   Time-Out Response (R)

The IVR System shall be designed such that calls with "no touch-tone response within a short period of time" (time-out) by the customer (one example is callers using a rotary phone) are acted upon automatically. Reference Paragraphs 1.3 and 2.8 also. Proposer shall specify proposed option(s) for calls that time-out.

1.2.4   System Flow (R)

The voice prompts shall promote utilization of automated transit information as a first choice over communication with a live representative. Reference Paragraph 0 also.

a.   Rider Information Office (R)

An explanation and option to transfer to KCM's ACD-managed Rider Information Office (RIO) shall be offered in the first-level menu.

1.2.5   Key-Ahead Selections (R)

The voice system structure shall provide key-ahead of touch-tone inputs such that experienced users do not have to wait for voice messages or prompts to complete prior to making a touch-tone selection.

1.2.6   Transfer Option (SD)

At any time during the call the customer may request a transfer to KCM's Rider Information Office (RIO) via touch-tone key. The touch-tone key used for the selection shall remain consistent throughout the customer interface. Proposer shall explain any exceptions to this operation. Metro's current transfer selection is a zero (0) touch-tone entry. Refer to Paragraph 0.

1.2.7   Repeat Message (SD)

During or after a segment of voice message (for example, a menu level) or during a voice data response (for example, a list of departure times) the customer can opt to repeat the message. Metro's current repeat selection is a star (*) touch-tone entry.

1.2.8   Start-Over Option (SD)

At any time within the automated system (that is, a transfer has not been initiated) except when entering transit data, the customer shall be able to return to the first level menu (main menu.) Metro's current return procedure is for the customer to use the pound (#) touch-tone entry.

1.3   Accessibility (R)

The IVR System shall be designed to allow access by customers with a wide range of disabilities, including individuals who (1) are blind or have low vision, (2) are deaf or hard of hearing, (3) have developmental or learning disabilities, (4) have slower response time, and so forth. The design shall conform to the standards of the:

- Americans with Disabilities Act, of 1990 Title II as it pertains to State and Local Government Activities and to Public Transportation

- Rehabilitation Act of 1973, Sections 504.

- Communications Act of 1934, Sections 255 and 251(a)(2), as amended by the Telecommunications Act of 1996.

Proposer shall describe the proposed solution to meet accessibility standards.

> **a.   Accessibility Level (SD)**
>
> The Proposer shall indicate what level of accessibility can be met.
>
> **b.   Accessibility Reference (R)**
>
> The Proposer shall provide reference sites where the stated accessibility level has been achieved.

1.4   Automated Bus Departure Times (R)

The spoken menus shall provide the customer with the ability to retrieve automated scheduled bus departure times based upon identification or entry of a Metro or Metro-managed route number and other responses prompted by the interface to determine the departure location and desired time of travel.

1.4.1   Departure Schedules (R)

The IVR System shall respond to customers' scheduled departure inquiries with multiple departures per location per route, if applicable. See Paragraph 0 for configurable option.

1.4.2   Route (R)

The IVR System shall voice a route identification as part of destination and/or resulting scheduled departures. See Paragraph 0 for specific management requirements for routes.

1.4.3   Destination (R)

The IVR System shall accommodate path of travel (by voicing the destination AND local and express travel or variations in the path (via's) where applicable) Refer to Paragraph 0 for any administrative requirements.

1.4.4 Departure Day and Time (R)

Multiple scheduled departure times (as applicable) shall be provided based upon a customer request that either implies immediate departure or specifies a specific time at which the customer wishes to travel. Use Paragraph 0 to address system determination of the actual departure times spoken.

a. Customer Specified Departure Time (R)

The customer shall have the ability to specify the desired departure time by day of the week and an approximate departure time.

b. Automated Departure Time (R)

To provide quick access to results, the IVR System shall also provide departures for the next bus based upon the current time.

1.4.5 Departure Location (SD)

While it is desirable for the IVR System to provide departure times at actual stops, or at stops in close proximity to each other, Proposer shall indicate at what level of detail a departure location may be specified in the proposed system, for example,

- for areas in proximity to a stop
- for every stop
- for timepoints and stops
- only for timepoints
- at landmarks
- other

1.4.6 Optimized Structure (SD)

The current IVR System maintains high-ridership boarding points such as Transit Centers, Park and Rides, mall entrances, main college boarding areas, etc., as locations which are provided as first selections for departure locations in the menu system.

The Proposer solution should describe any customer access optimization in the system such that a large number of customers are able to identify their departure location at the earliest point in the voice system possible, with the goal of reducing call duration. Paragraph 0 provides for management-related requirements.

1.4.7 Fast-Access Automated Bus Departures (R)

The current IVR System is designed to provide experienced IVR transit customers quick access to automated scheduled departure information. The customer typically calls for information on the same route, direction/destination, express or local service, and stop. The current method of fast access uses IVR System specific 4-digit numbers that group routes based upon a transit stop, direction of travel, and/or approximate path. The number is called the "Bus Time Stop Number" (hereinafter BTSN.) Customers are able to enter a BTSN in conjunction with route identification and receive quick departure information for their location.

Due to data dependencies in other areas, a BTSN must be maintained for fast-access to departure information. The name "Bus Time Stop Number" shall be retained where used in other

transit products and shall also be referenced as "Bus Time Stop Number" within the customer interface of the IVR System.

The Proposer shall provide a fast-access method for repeat customers such that the number of touch-tone entries is minimized. The IVR System shall use four digit numeric values within the IVR System to identify departure locations. See Paragraph 0 for related management requirements for BTSN. Use Paragraph 0 to specify if the BTSN must be provided by KCM.

a. Bus Time Number Details (SD)

The Proposer shall indicate if and how the BTSN accounts for:

- Multiple routes leaving a location

- Routes with different destinations leaving the same location.

- Routes designated in the data as both 'Inbound' and 'Outbound' assigned at the same BTSN.

- Routes with different paths to the destination, including local and express service.

1.4.8   Helpful Messages

The Proposer shall indicate additional voice messaging options related to bus schedules at the route, stop, pattern or trip level included in the system, including, but not limited to:

a. Last Bus (SD)

A last bus message shall provide the customer with the information that the time just spoken is the last time that a particular trip (route) runs to their desired destination. The last trip implies a "service day."

b. Temporary Service Disruption (D)

Service disruption includes multi-day changes (as opposed to one-trip or one-day trip modifications) that can be temporarily incorporated into the spoken information.

c. Holiday Exceptions (D)

Holiday exceptions generally occur at the route or pattern level.

d. Other (O)

Proposer may elaborate upon any other features that the proposed system supports.

1.5   Special Service Announcements

Proposer shall specify how the IVR System spoken menu provides:

a. Informational Messages (D)

Generic Informational Messages

b. Special Service (SD)

Special service routes (such as those to support sports events, conferences, shows and other public events)

     c.   **Emergency Information (SD)**

     Emergency information (such as snow (re-)routes, street closures, disasters)

1.6 Call Transfers ®

The IVR System shall manage call transfers to multiple ACD-managed workgroups where calls may be answered by a queue, and to individual numbers that may be answered by a live person or voice mail. (Paragraphs under 2.8 and Paragraphs under 0 are related to this section.)

Call Transfer to KCM's Rider Information Office (RIO)

Separate ACD-managed workgroups have varying and different hours of operations. Live agents are not always available.

     a.   **Office Closed (R)**

     When a transfer request to an ACD-managed workgroup is initiated by a caller when the workgroup is scheduled to be closed, the IVR System shall provide an informational message, specific to that office, to the caller, and then return the caller to the first level of the IVR System voice menu.

     b.   **Transfer Caller (R)**

     When a transfer request to an ACD-managed workgroup is initiated by a caller during scheduled open hours for that workgroup, the IVR System shall transfer the caller if an agent or queue space is available.

     c.   **Retain Caller (SD)**

     When a transfer request to an ACD-managed workgroup is initiated by a caller during that workgroup's scheduled open hours when workgroup agents are busy and the ACD workgroup queue is full, the IVR System shall detect the queue-busy condition, hold the call, announce the situation and provide the IVR menu options for automated assistance. If the proposed system does not provide this feature, Proposer shall describe how such calls are managed.

2.   IVR System Administrative Functions (R)

The IVR System administrator has secure access to the back-end of the software to perform management functions that support the end-user and data management. These functions include:

▪ managing modified or updated transit schedule data including initiating or reviewing any automated processes, incorporating new data, adding IVR System specific data,

▪ ensuring that the system is functioning properly for the customer including managing the voice menus, messages, individual voice recordings, and general usability and smoothness of the voice and prompts system,

▪ organizing and reviewing statistical data retrieved by the system for reporting to management for the purposes of evaluating IVR System usage, call transfer requests, and specific function, route or directional requests within the system.

▪ IVR administration functions shall be available 24 hours per day (24 x 7) excluding certain maintenance hours. See Paragraph 5.12 for system availability information.

2.1 Administrator Interface (R)

The IVR System shall provide administrative functions sufficient to manage required functionality. Proposer shall submit sample screen shots and a high-level diagram of major menu options and administrative tools provided. In Part C Section 3, responses to all paragraphs under "**IVR System Administration**" shall reference the menu section(s) applicable to the requirement.

Networked Access (R)

The IVR System administrator interface shall be accessible via networked PC.

a. Administrative Environment (R)

Describe the administrative environment at a high level, e.g. web-based, client server, etc., including any remote access capabilities.

Security (R)

Appropriate security shall be in place to manage access to the schedule and voice data repository and management interface, including:

- support for multiple security and access levels
- applying different security levels to specific users
- ability to restrict access to specific sections of the repository

Structure (R)

The interface shall be primarily menu driven. Command line options are acceptable. Proposer shall specify any command line tools not available via a menu.

Consistency (SD)

The system should be consistent with respect to menu-based options between menus.

Windows Functions (R)

Functions for editing similar to those found in most Windows applications shall be provided. These functions include drop down, fast-key, and "right-click" selections for cut, copy, paste, find, replace, delete and other often-used functions.

Menu Fonts and Colors (SD)

Menu fonts and colors must support visually impaired users and should be consistent with other Windows applications.

Configurable Options (D)

Proposer shall explain what menu functions are adjustable or configurable, and how the adjustments to the menu functions are made. Does the system provide acknowledgement, confirmation or warnings, when adjustments to menu functions are made?

Commits (SD)

It is preferred that data changes by the administrator are immediate except for deletes or other actions that could adversely impact the live system. Proposer shall indicate how data changes are handled by the system and any configurable options for modifying the default behavior, and explicitly describe any secondary approvals required, especially for actions which commit data or have the potential to adversely impact the live system.

2.2 Transit Data Management (R)

The base system refers specifically to bus, streetcar and water taxi data.

KCM's transit data changes constantly. Several factors, such as changing user demand and construction, may require revisions of stops, routes, times and other transit data. Major schedule changes are implemented three times a year and minor service changes are implemented as often as bi-weekly. Other changes are ad-hoc. For example, changes in stop data may occur almost daily.

Metro maintains data sets each with an effective date range (start date and end date) that specifies when the data represents the actual transit operating situation.

1) Data changes to the current service (referred to as CURRENT) are provided bi-weekly. Bi-weekly updates are available to the administrator approximately one week prior to its effective start date.

2) Data for the upcoming major service change is developed during the three months prior to its effective start date. These major service changes (referred to as NEXT) currently occur in September, February and June. The administrator works with current schedule data and future schedule data concurrently.

The IVR System shall provide a structured method for incorporating new data into the system. Proposer shall provide an administrative overview for incorporating new data into the IVR System.

2.2.1 Multiple "Data Sets" (R)

Multiple data sets shall be supported such that the administrator may edit, copy, make available, compare, archive and otherwise manipulate the data as needed.

Proposer shall specify if there is any maximum number of data sets supported by the system as configured, and any additional requirements or limitations should additional data sets be desired in the future.

2.2.2 Data Set Identification (R)

Proposer shall indicate the criteria for identifying data sets within the IVR System. For example, a data set could be identified by an administrator provided name, an automatically generated name, KCM schedule name, or other criteria. See Paragraphs 0 and 0 for an example of selecting a unique data set within the IVR System.

2.2.3 Data Set Deletion (R)

The administrator shall have the ability to delete a data set within the IVR System.

2.2.4 Manual Build Start (R)

When new schedule data is available, any process for incorporating the new data into the IVR System shall be manually initiated by the IVR administrator. The process of incorporating that new data is the build process.

2.2.5 Source Data Identification (R)

Multiple data sets are maintained together in the Transit Enterprise Database. The administrator shall be able to specify the data set to be incorporated into the IVR System. Proposer shall indicate the criteria and process for identifying required source data when new transit data becomes available.

2.2.6 Data Change Comparison (R)

When new transit data is available in the source system, and identified by the administrator for a build, the IVR System shall provide comparison of the new data with another transit schedule data set in the IVR System. Differences between the two shall be clearly indicated, so that the administrator can identify key changes at a glance.

a. Change Report Contents (SD)

Proposer shall indicate what changes can be reported in the proposed system (not limited to the following examples:)

- New Routes
- Unused Routes
- Changes to Route Patterns
- Deleted Patterns
- New Stops
- Stops new to a Route
- Stops new to a Pattern
- Unused Stops
- New Timepoints
- Unused Timepoints
- New Streets
- Changes in the At-Street
- Changes in the On-Street
- Unused locations
- Changes to Distances between locations

b. Data Change Format (SD)

The Proposer shall specify the default report format for data comparisons, and if multiple formats are available.

c. Printable Change Reports (SD)

If Data Change information is provided on-screen, the Proposer shall provide options for printing. Use Paragraph 0 to specify any additional reporting software or licensing if required for this functionality.

d. Data Change Comparison Parameters (SD)

Proposer shall specify any configurable parameters that govern the Data Change Comparison (not limited to the following examples) and when and how those parameters are set.

- Case Sensitivity
- Other

2.2.7 Transit Data Integration (R)

The IVR System shall provide as much automation of any required data load process as possible while still providing for oversight by the administrator. It is highly preferable that the actual modification or creation of a new data set provides for a full acceptance or a partial acceptance of the changed data identified in Paragraph 0 above.

Proposer shall indicate how the build process incorporates new data into the IVR System, including any automatic correlations between transit data and voice data.

Additional features and capabilities include:

a. Monitoring (R)

The administrator shall not be required to monitor each part of the build real-time.

b. Results Reports (D)

Proposer shall specify any reports detailing the final data build.

c. Error Reports (D)

Proposer shall identify any error reports generated as part of the build process.

d. Processing Time (D)

Proposer shall give an estimate of how long the build process is expected to be given the size and structure of KMC's transit and voice data, and assuming that an interface is in place according to proposed specifications.

2.2.8 Detail Views and Updates

KCM's current IVR System provides for multiple tabular views of similar data in an IVR System data set. Examples of some of these views (for reference purposes) are shown in Appendix B. From the views the administrator can select to make changes to individual items. For example, the administrator has the ability to add, modify or delete a specific route number, stop, timepoint, street, distance, etc. It is highly desirable that the administrator has a view of specific route/runs with departure locations in sequence in the view.

a. Views (SD)

The IVR System shall provide administrators with multiple views of data. Proposer shall specify or provide examples of views provided by the system.

b. Updates (SD)

Proposer shall specify how the administrator can make specific data changes or additions within any data set.

2.2.9 Special Features

The management interface must adequately provide for administration of all irregular transit-related information provided to the customer.

a. Destination Details (SD)

The IVR System shall allow for optional management of "via" information associated with a destination. For any destination details Proposer shall describe the method and tools by which all voice and data for vias, local/express and destination of service are configured so as to provide the customer with transit information as in Paragraph 0.

b.   Routes (SD)

KCM's current IVR System provides for association of a route number to a transit agency or to special characteristics of a route. For example, Sound Transit routes are designated as such as part of the spoken message for the route (e.g. the spoken message is "Sound Transit Route 550.") Other routes have additional required information, such as a name, associated with the route number. For example, the Water Taxi route is not generally referred by its route number but by name only. See Paragraph 0 also.

Proposer shall explain options to 1) utilize default route vocabulary, 2) manually override route vocabulary, and 3) automate route vocabulary based upon transit criteria.

If this functionality requires customization or added cost to implement, Proposer shall provide additional costs and estimated maintenance impacts in the appropriate section.

c.   Optimized Structure (SD)

For any optimized boarding locations as explained in Paragraph 0, the Proposer shall describe the method and tools by which such locations are managed.

d.   Locations (SD)

The system shall provide options to address situations when location names are unacceptable to the administrator, do not adhere to requirements for voice annunciation, or if the location names are not automatically announced.

e.   Bus Time Stop Numbers (SD)

In the case of Bus Time Stop Numbers (BTSN) as explained in Paragraph 0, the Proposer shall describe the method and tools by which the BTSN are assigned and managed including any business considerations pertaining to customer usability

f.   BTSN Expansion (D)

The Proposer shall indicate if and how the number of digits or method of representing a "BTSN" may be changed or expanded, and to what extent.

g.   Other Transit Information (D)

The Proposer shall provide any additional information related to management of transit information, especially as it relates to functions that the proposed system automates, administrative options for overriding vocabulary and data defaults and any specific requirements for manual administration of transit-related information.

2.2.10   Departure Times (SD)

Proposer shall specify how spoken departure times at a location (as specified in Paragraph 0 are determined in the proposed system. Any data requirements from KCM shall be specified using Paragraphs under 0.

2.2.11 Exceptions Handling

This section is intended to give the Proposer the opportunity to describe how the proposed IVR System facilitates any additional transit anomalies. Proposer shall provide the proposed system's conceptual handling of the following special circumstances, and may add additional special features as deemed important and relevant:

a.   Loop Routing (D)

Departure locations along "one-directional loop routing" where the same bus may, in one trip, pass the same location twice, or the same route number with different direction designators may pass the same location on a one-directional loop.

b.   Trip Path Variation (D)

Ability to ensure accurate departure times for routes with the same number that may have different routings and/or start/end locations.

c.   Arrivals/Departures at Same Location (D)

The ability to ensure that departure times are used at same-point locations where buses may have "lay" time between arrival and departure times.

D.   Other Exceptions (O)

Proposer shall specify any additional features that the proposed system supports without customization or additional cost.

2.2.12 Management of Availability (R)

The administrator shall be able to specify when data sets are accessible to the customer. Paragraph 2.2 explains effective dates. Generally, data set accessibility to the customer correlates to the effective date of the transit data as shown in Figure 2.2.11 below.

a.   Data Availability(R)

The Proposer shall provide an explanation of data management with respect to availability to the customer. Include any automated features for assigning availability.

b.   Management of Dates (SD)

The Proposer shall indicate how the system provides the administrator the ability to correlate between effective dates and available dates. The IVR System shall accommodate management of the availability of data sets at the date and time level.

c.   Assurance of Availability (R)

The Proposer shall specify how the system ensures that there is always a schedule available to the customer.
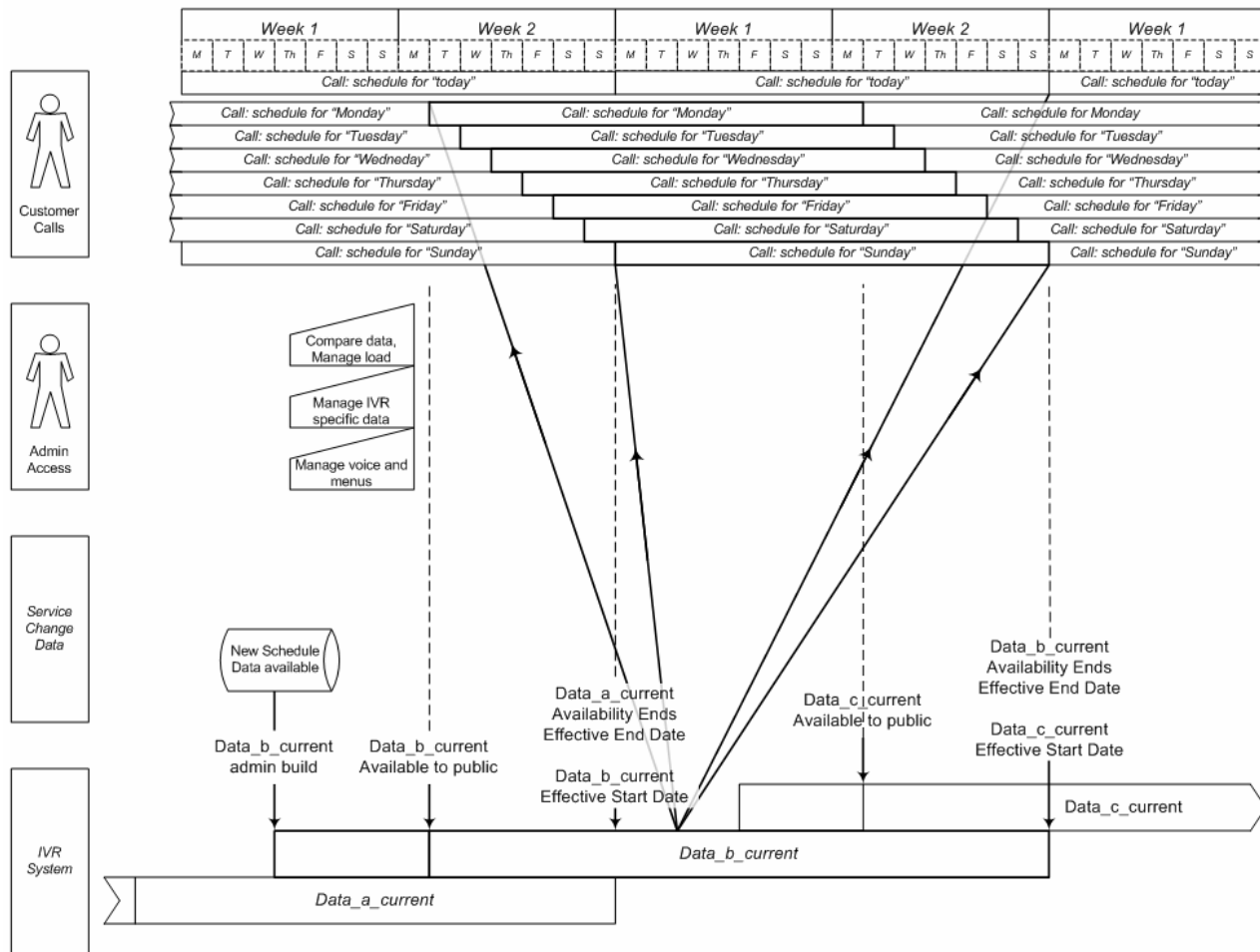
Figure 0

Example of Effective Begin Dates and Effective End Dates for a Schedule

2.2.13   Schedule Types (R)

KCM schedule data includes schedule types that specify different service for different days (currently Weekdays, Saturdays and Sundays.) Proposer shall explain how the IVR System either manages automatically or provides manual administration of different schedule types and associates these to particular days on a calendar.

a.   Schedule Data Exceptions (SD)

Some separate Holiday, Partial Holiday, Event, School Service or other special data builds may be required. If the proposed system supports assigning a special schedule type for a data set or subset of the data set, specify the means by which that is accomplished.

     b.   **Other Exceptions (SD)**

Some separate Holiday, Partial Holiday, Event, School Service or other schedule exceptions are required at the route or trip level. If the proposed system supports assigning a special schedule type to different routes or trips on a given day, specify the means by which that is accomplished.

     c.   **Expansion (SD)**

In the future, KCM may provide additional schedule types in the source schedule data. Proposer shall clarify any maximum number of schedule types that may be accommodated in the IVR System, and projected system additions (software, hardware) required, if any.

2.3 Transit Division Capabilities (R)

KCM shall incorporate light rail and commuter rail into the IVR System within two years. Proposer shall specify capabilities of the proposed system to manage data sets that define transit service for different divisions, such as Light Rail and Commuter Rail.

2.4 Usage Data Collection and Reporting (R)

The IVR System shall collect customer call data and provide reports for administrator review and manipulation, used to evaluate customer usage of the system. The Proposer shall describe the level to which data may be collected for incoming customer calls and for the touch-tone responses to menu options.

The Proposer shall describe how the system meets the following desired reporting features **and** any other standard reporting capabilities deemed relevant or significant.

2.4.1 Administrator Selectable Reporting Periods (SD)

- Hourly (on-the-hour)
- Daily (12:00 a.m. to 11:59 p.m.)
- Range of Days (to the hour)
- Weekly (by day)
- Weekend, including Saturday and Sunday (by day and hour)
- Weekday, including Monday, Tuesday, Wednesday, Thursday, and Friday (by day and hour)

2.4.2 Usage Detail (SD)

- Number of total incoming calls
- Number of calls that transfer to RIO without other input
- Number of calls that transfer to RIO with other input
- Number of calls that transfer to L&F, CAO or other available transfer options
- Number of calls that request special service info
- Number of calls that request special service info partitioned by next keyed entry
- Number of calls that select automated bus information

- Number of calls that select automated bus information and eventually (at any time during the call) transfer to RIO or other offices

- Number of calls that select automated bus information per route (if a specific route is keyed or selected, only report for the specific route – example, customer keys in route number, system returns information for multiple routes at that location, but the usage report allocates the call to the original keyed in route number only.) If this particular item is not provided as part of the base system, but can be provided at additional cost, Proposer shall provide the cost and any estimated additional maintenance cost for the feature.

- Number of calls that select automated bus information but do not ever receive departure information prior to hang-up (as opposed to transfer.)

2.4.3   System Usage (SD)

- Call Duration

- Calls per node (T1 channel or voice card) to show line/channel performance

2.4.4   Selection and Output Options (SD)

- Export of data (prefer delimited data for import into a spreadsheet.)

- Save administrator selected reporting options for re-use (customizable default reports.)

- Storage requirements for historical data

- Archiving capabilities

- Default reports

2.4.5   Automatic Generation (R)

- Data generated and stored without administrator intervention

- Configurable options for automatic generation

2.4.6   Report Archival (SD)

- Manner of storage for data

- Any limitations on storage of collected data

- Procedures for removal of old data relevant to disk space management.

2.4.7   Security Access to Reporting Features (R)

Usage data and reporting features shall be accessible to a restricted administrative user based upon account controls within the IVR system, such that usage reports may be accessible without access to other administrative functions.

2.4.8   Other Relevant Reporting Features (O)

Proposer shall indicate any additional reporting features provided by the proposed system.

2.5 Vocabulary Management (R)

The vocabulary used by the IVR System shall be maintained by King County Metro staff (the administrator.) The IVR System shall provide a speech editing interface for the administrator. See also Paragraph 5.7.

2.5.1   Vocabulary Creation (R)

The Proposer shall specify the administrator's method(s) of creating vocabulary records. The Proposer's response may relate to the items in Paragraph 0 and any other relevant paragraphs, and should include specific information as to identifying (naming) of vocabulary records.

2.5.2   Vocabulary Editing Features (R)

The IVR System shall provide speech editing features. The Proposer shall specify features supported by the vocabulary management environment, including but not limited to:

- Individual vocabulary edits,

- Pause deletion and insertion,

- Undo/redo individual vocabulary edits,

- Visual speech (e.g. histogram),

- Off-site and remote vocabulary management,

- Speech modulation by individual file and/or the overall system.

- "nth of a second" speech editing (minuteness of edits),

- Any relevant data attached to the vocabulary file.

2.5.3   Vocabulary Records Management and Control (D)

The IVR System shall provide the ability to store and manage the large number of speech data used by the system. Proposer shall describe how speech data is stored and managed.

Any speech recording must be identifiable and easily related to the content of the recording by the administrator.

The Proposer shall outline the level of support that is provided for speech records management, for example:

- Direct and visible linkage to a speech recording (e.g. unique database record specification),

- Ability to group speech recordings for ease of management (i.e. speech of on-streets, speech of at-streets),

- Ability to play back a speech file outside the IVR System.

2.5.4   Vocabulary Assurance (R)

The proposed IVR System should have mechanisms to ensure that vocabulary exists for all data to be provided to the customer via the spoken menus. The IVR System should allow for easy checking and rectifying of any vocabulary and data discrepancies by the IVR System administrator.

Proposer shall indicate any functions provided to ensure correlation between data elements that need to be spoken and the associated vocabulary.

2.6   Script Management (R)

The IVR System shall provide management functions for the creation and management of spoken menus. Proposer shall explain the setup and modification options for the spoken menus to ensure that all customer-facing functionality is provided.

2.6.1 General Messages (R)

As noted in Paragraphs 0, 0 and 1.5 there will be general messages spoken for various purposes such as welcomes, universal announcements, emergency notifications, mostly-static informational statements, emergency updates, etc. Proposer shall describe the administrator's capabilities for managing these messages. The response shall include the ability to identify, select and replace existing messages.

2.6.2 Configuration of Departure Information

This configuration relates to the spoken departure schedules at a location as described in Paragraph 0. Tools and options available to the administrator shall include:

a. Minimum/Maximum Departures per Route (R)

Configuration of the number of spoken scheduled departures per departure location and route pattern.

b. Minimum/Maximum Route Departures (R)

Configuration of the number of different route departures announced at a departure location.

c. Threshold for Spoken Departures (R)

Configuration of a time range prior to the specified departure time for which to announce scheduled departures. That is, the IVR System shall allow for spoken departures that are actually before the customer's specified departure time, within a range specified by the administrator. See Paragraph 0.

d. Helpful Messages (R)

As identified in Paragraph 0 any administrative options available and configuration requirements to manage Last Bus, Service Disruptions, Holiday Schedules and other information shall be explained by the Proposer.

2.7 Load Balancing and Capacity Management (SD)

The current IVR System at KCM has some capacity management capabilities. One example is, the administrator may set a maximum call volume threshold. If the concurrent call volume then exceeds that threshold, spoken messages are automatically truncated or non-essential messages are removed to shorten individual call durations.

Proposer shall describe any capabilities provided by the proposed IVR System to alert the Administrator to overloading issues, and for manual or automated capacity management. Proposer should also describe any load balancing capabilities of the proposed system.

2.8 Call Management (R)

The IVR System shall provide the administrator with management functions needed to support the customer interface requirements related to call management as specified in Paragraphs under 1.2, 1.3 and 1.6 including:

a. Latency (SD)

For calls that time-out Proposer shall indicate how the time-out latency is configured by the administrator.

b.   Accessibility (R)

The Proposer shall describe what tools are provided for management of the system's accessible features.

c.   Hours of Operation (R)

For ACD-managed workgroups accessible via the IVR System, Proposer shall explain the tools that allow the administrator to specify the hours of operation on any day for each phone number. Paragraph 0 specifically states the requirement for any ACD managed workgroup; Paragraph 0 identifies specific telephony handling.

d.   Transfers to Individual Phone Numbers (O)

Proposer shall specify what features, if any, exist for managing transfers to non-ACD managed numbers in the PBX.

e.   ACD Transfer Numbers (D)

The Proposer shall specify how many ACD managed transfer numbers, with "hours of operation" (as in Paragraph 0 above) are supported by the proposed system.

f.   Monitoring (D)

The Proposer shall specify or describe how the IVR system administrator is able to monitor system traffic in real time.

g.   Other (D)

The Proposer shall specify any other features that assist the administrator with call management.

3.   Data Requirements

3.1   Telephony Interface (R)

3.1.1   Hardware Configuration (R)

KCM's current telephony configuration places the IVR System in front of KCM's NEC IMX2400 PBX. The IVR System accepts calls directly from the Qwest Central Office via three DSS/T1 telephone lines. An NEC NEAX 2400 ACD system manages calls transferred from the IVR through the CO to the PBX to the Rider Information Office ACD and various other offices. The PBX and the ACD will not be replaced or modified. The IVR System shall function with KCM's existing telephony platform at the time of implementation.

a.   Telephone Lines (R)

Proposer shall specify the number of T1 lines required to support the base system and as described in Paragraph 5.14.

b.   Voice Interface (R)

The three existing Dialogic voice interface cards will not be re-used. Proposer shall specify the number and type of voice processing telephone interface cards that shall be utilized.

3.1.2   Telephony Architecture (R)

Proposer shall include a block diagram of the telephony architecture.

The Proposer shall configure the IVR System such that the hardware taking the calls is in front of the PBX as depicted below:
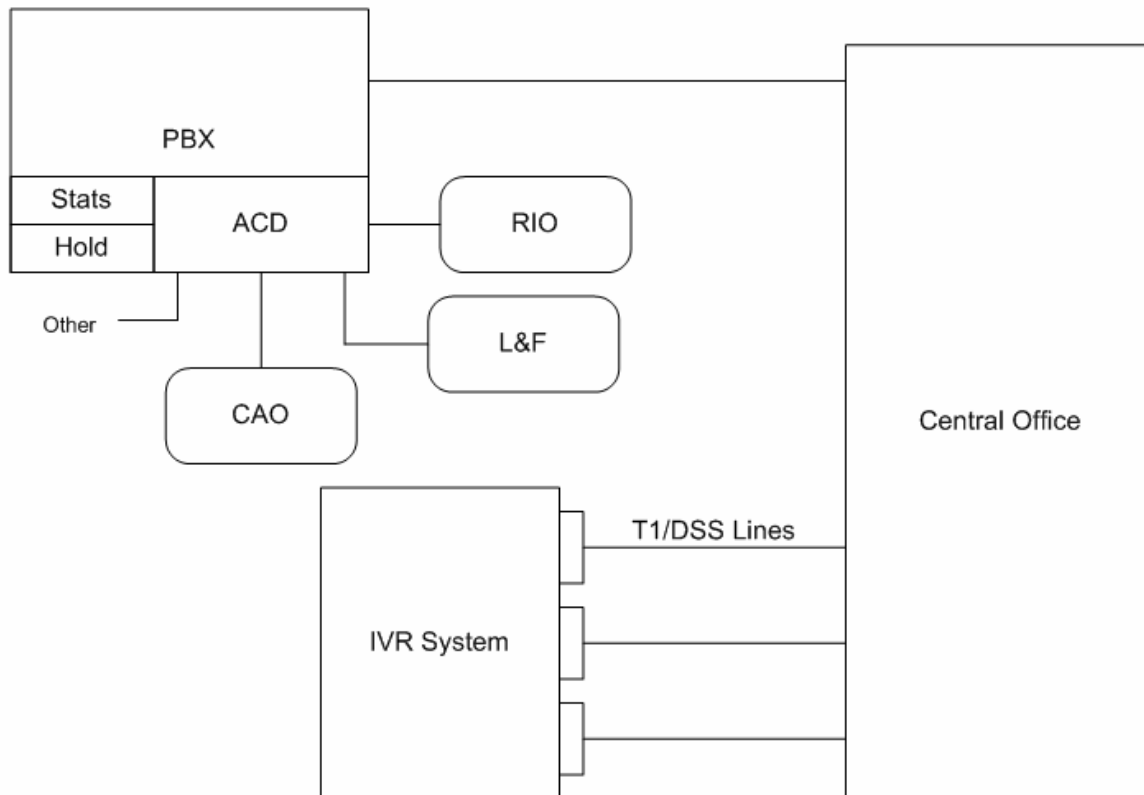
Figure 0 - 1

KCM's Current Telephony Configuration

3.1.3   Phone Line Management

Proposer shall indicate how the following are supported in the proposed system:

a.   Supervised Transfer (R)

When there is a transfer request by the caller, the IVR System shall ensure availability of the requested number then transfer the call to the appropriate destination and release all related IVR lines.

b.   Busy Condition (R)

When there is a transfer request by the caller, the IVR System shall recognize when a busy condition is in effect (e.g. the ACD queue for the requested transfer is full, or a phone line is busy) and not transfer the call.

c.   Non-Transfers (SD)

When there is a request for a transfer and the call is not transferred, the IVR System shall return the caller to an IVR menu option.

d.   Release Phone Line (R)

For any interrupted transfers the circuit shall be released when the caller is returned to an IVR System menu.

e. Disconnect Handling (R)

When a disconnect is initiated by the caller, the IVR System shall identify the disconnect.

f. Instantaneous Release (R)

When a disconnect is identified by the IVR System, the line shall be released within an apparently instantaneous time.

g. Non ACD Scenario (SD)

The Proposer shall describe any differences between ACD call-transfer scenarios and non-ACD call-transfer scenarios.

h. Processing Time and System Resources (D)

For all call transfer scenarios the Proposer shall specify or describe the expected call processing time(s) and usage of system resources.

3.2 Data Interfaces

3.2.1 Architecture (R)

Proposer shall provide a complete set of architectural diagrams and descriptions including:

- Logical Component Architecture
- Functional Decomposition Architecture
- Physical Decomposition Architecture

3.2.2 Output (R)

A flat file shall be provided as export to the TED server (common directory) upon request of the IVR System administrator. This file contains formatted data from a data set that is selectable (as in Paragraph 0) by the administrator. The file format is shown in Figure 3.2. - 1.

a. Filename (R)

The filename shall be specified by the administrator; selecting a filename is acceptable.

Description	Start Column	End Column	Length	Data Type	Example
BTSN	2	5	4	numeric	3713
SIS Stop ID	9	13	5	numeric	50
Route Number	15	17	3	numeric	14
Route Part	18	18	1	character	N
Direction	20	20	1	numeric	0 or 1
I/O	21	21	1	character	I

Figure 3.2. – 1
Required Output File Format

3.2.3   Input

The IVR System relies on transit data generated by other systems. GIS and schedule data are integrated along with other published data, such as stop sequence data, within KCM's Transit Enterprise Database (TED.)   TED is a data source for numerous KCM applications.   TED comprises multiple schemas in an Oracle database. There are scheduling, stop, geographic and transit information system schemas. There are Development, Test and Production instances.

KCM can provide varied data in varied formats.

a.   Transit Data Source (R)

Transit data (possibly excluding transit vocabulary data) shall come from the TED. A high-level diagram of the TED by subject area is included in Appendix C. This diagram outlines typical transit data elements that may be relevant and can feed the application.

b.   Transit Data – Base System Load Needs (R)

Proposer shall specify all specific data required to initially set up the proposed system, including data type and format.

c.   Transit Data - Ongoing Needs (R)

Proposer shall state all specific data entities expected from TED, including the expected format of that data.

d.   Existing BTSN's (O)

The Proposer has the option of re-using existing BTSN's. The benefit is to the customer who will not have to learn new BTSN's for their departure locations. Proposer shall indicate if re-use of existing BTSN's is feasible. Any additional cost of re-using existing BTSN's if it is feasible to re-use them shall be broken out under Paragraph 0.

3.2.4 Data Store

Paragraph 5.4 specifies database types preferred by KCM.

a. Database Server (SD)

Proposer shall explain capabilities of the proposed system's database to run on KCM's servers.

b. Transit Data (O)

Proposer shall explain to what extent the proposed IVR System's database can be incorporated into the TED environment. The requirement regards KCM's ability to locate IVR system data in the TED environment.

3.2.5 Speech Data

a. Vocabulary Source (SD)

KCM currently has vocabulary stored in flat files in vox format. In the interest of saving time in the creation of vocabulary, the ability to convert the existing vocabulary for use in the proposed system is preferred. Proposer shall describe any initial implementation requirements that would support the base system population with pre-existing speech data.

b. Speech Data (R)

Speech data shall be database centric. That is, voice data shall reside in a database.

c. Separate Speech Data (SD)

Speech data shall be loosely coupled with the rest of the application, such that it may be moved, changed, and utilized by KCM outside of the IVR System as standard format (described in Section 5.7.)

4. Future Work

This section is intended for future expansion and enhancement of the IVR System, or as options to enhance the implementation of the proposed IVR System. Proposer shall identify the current effort, and hardware, software and materials required to include any necessary hooks for these options in the base System. Proposer shall identify the future effort and material requirements required to fully implement these options.

4.1 Professional Speech Services (O)

Vocabulary creation may be provided by a professional service provider. If this option is included in the base system, Proposer shall include two references of systems built primarily using the professional speech services proposed.

4.2 Text-to-Speech (O)

Text to speech (TTS) capabilities provide manufactured speech for data which has no corresponding vocabulary. If this option is included in the base system, Proposer shall include two references of systems built using TTS.

4.3 Voice over Internet (VoIP) (O)

KCM is considering future conversion of the IVR System to Voice over Internet Protocol for the telephony interface.

4.4 Automated Speech Recognition (ASR) (O)

Migration or integration of the proposed IVR System from the current DTMF format to a combination DTMF and Voice ASR is a future option. Proposer shall indicate any additional hardware and software required to support this option, source data interface differences (if applicable,) customer-facing features that are currently available, and an estimated difference in daily administrative effort to maintain an ASR system.

4.5 Multi-Script Support (O)

The Proposer shall include supportability in the proposed IVR System for addition of

Multi-script support addresses accommodation of separate telephone numbers which directly and concurrently access completely separate IVR scripts. Proposer shall indicate telephony requirements in addition to hardware, software and services to implement such a solution.

4.6 Scalability (O)

The Proposer shall describe requirements to scale the system for future increases in data requirements (for example, increased routes, increased trips on routes) and call volumes (for example, increased consistent daily usage of the automated schedule information, increased pass-through calls to the RIO) in excess of the base system requirements (as specified in Section 1 Paragraph SECTION 1 2.2.) Proposer shall include hardware and software requirements, along with any architectural diagrams to assist in understanding the requirements.

5. Administration and Documentation

Due to security, other policy standards and potential cost savings at King County, it is preferred that KCM control and maintain hardware, operating systems, databases and telephony equipment.

5.1 Self-sufficiency (SD)

Overall, the IVR products shall install 'out-of-the-box,' without a need for the core product code itself to be modified. Instead, the 'hooks' provided by the contractor for expansion and configuration will be used.

5.1.1 Maintenance Skills (O)

The Proposer shall indicate what skills and knowledge shall be required by internal staff to customize, extend, maintain and administer the product.

5.1.2 Maintenance Responsibility (O)

If there are any activities that require the Proposer or other outside organization to maintain or administer the system, the Proposer shall specify them.

5.2 System Hardware (R)

Proposer shall specify total hardware requirements. These requirements shall include minimum and recommended platform and capacity. Proposer shall include specifications including but not limited to:

- CPU capacity

- Memory requirements

- Hard Disk space needs

- Network bandwidth

- Other

5.3   Operating System (R)

KCM's preferred operating systems are 1) Windows Server 2003, and 2) Red Hat Enterprise Linux (RHEL). For solutions using any operating systems other than Win2003 or RHEL, vendor must include operating system support services in the paragraphs on Maintenance Contract (Paragraph 5.16.) Proposer shall specify the proposed system's operating system.

5.4   Database (R)

KCM's preferred databases technologies are 1) SQL Server and 2) Oracle. Proposer shall specify the database technology to be used outside of existing KCM databases (if any.) See Paragraph 0 also. For solutions using a database technology other than SQL Server or Oracle, vendor must include support services in the paragraphs on Maintenance Contract (Paragraph 5.16.) Proposer shall specify the proposed system's database technology.

5.5   Reports (O)

Crystal Reports is the standard for KCM's internal reporting needs, along with a Crystal Enterprise Professional version 10 infrastructure. Proposer shall specify any benefits realized by proposed system utilizing Crystal Reports.

5.6   Systems Compatibility (SD)

KCM provides and installs the following software products on all systems maintained by KCM. Hardware and software implemented shall accommodate usage of the following software if relevant to the proposed operating system. Proposer shall use Paragraph 5.16 to specifically address any of the items that will not function on the IVR System (even if it is due to an operating system incompatibility.)

5.6.1   Backup Software

EMC Legato NetWorker version 7.2 centralized backup system (solution database should be supported under standard or separately priced Legato modules.)

5.6.2   Remote Access Tools

KCM has a VPN/VNC solution, and also uses Windows Remote connection, GoToMyPC, PCAnywhere and Altiris as remote access tools.

5.6.3   Security and Critical Updates

Patchlink server for security patch and critical updates, and Windows Server Update Services (WSUS) for desktops.

5.6.4   Server Monitoring

Netcrunch or HP OpenView for monitoring servers.

5.6.5   Anti-Virus

ETrust Antivirus version 7.0 or McAfee version 8.x.

5.6.6   Un-Interruptible Power Supply

KCM uses APC Un-interruptible Power Supply with power monitoring software via USB.

5.7   Speech Compatibility (SD)

KCM prefers mp3 speech file format for voice recordings. Proposer shall specify the speech file type used (e.g. mp3, vox, nvf, wav) in the proposed system. Related Paragraph is 0.

5.8   Failure Resolution (SD)

The Proposer is to describe a failure resolution strategy and processes that assists in management of recoverable component failures. The strategy should address notification of error, automatic recovery or manual recovery procedures for such things as hardware storage device failure, server failure, voice interface card failure, phone line failure.

5.9   Contingency and redundancy (R)

As the IVR System is the only pathway for the public to call the Rider Information Office, it is a mission-critical system. As such, steps should be taken to ensure that availability is guaranteed over the lifetime of the system.

The Proposer shall therefore propose a contingency plan to meet these goals. It is expected that this shall involve redundancy (duplication) of key components, such as:

▪   menu, data and speech components

▪   telephony connections

▪   internal network access

The Proposer may outline alternative ways of meeting the availability requirements, such as specifying manual mechanisms for working around failed components. For the purposes of availability, reduced capacity is acceptable if necessary.

5.10 Backup and Recovery Operations (R)

On-call staff from the King County Metro Server team will complete daily backups of all components of the IVR System using Legato NetWorker. The Proposer is to describe a backup and disaster recovery strategy that ensures the safe-keeping of the information stored within the information repository.

5.11 Security (R)

As a source of precise transit data presented to the public, the IVR System shall be adequately protected against unauthorized changes or other damage.

Adequate security levels shall be in place to protect the integrity of the public-facing data and spoken menus.

There should be no "back-door" access to callers.

5.12 Availability During Maintenance (SD)

System Maintenance includes upgrades and fixes to the operating system, and to "system" software including backup software, monitoring software, remote connection software and security software, and database software. During system maintenance, the system shall support at least one third of normal

weekday evening customer access capacity. Administrator operations shall remain available throughout system maintenance to the extent possible.

Server Maintenance (on KCM managed components) is completed by the KCM Server team on Wednesday between 11:30 pm and 2:30 am the following morning.

Database Maintenance (on KCM managed components) is completed by the KCM Technical Support Service team on Wednesday between 9:00 pm and 11:00 pm.

5.13 Application Maintenance (SD)

Application Maintenance includes upgrades and fixes to any third-party application contracted by the implementation vendor. Application maintenance shall provide for patch and version upgrades for any of the applications implemented by the vendor. Any customization completed by the vendor shall be fully documented and managed as part of any upgrade procedures.

Application maintenance will occur between 9:00 pm and 2:30 am on Wednesday evenings, and will continually support customer access and, if possible, administrator functions.

5.14 Performance (R)

The Proposer shall describe the performance delivered by the recommended hardware and software, based on estimates of usage and information provided to the customer.

The Proposer shall outline how increased usage, via graph and data usage and sizing will impact these figures, and the additional resources (both hardware and software) that will be required to compensate for this.

5.15 Warranty (R)

Proposer shall specify the warranty period provided, once the system has been purchased. This shall specify what is covered by the agreement, and areas specifically excluded from it.

5.16 Maintenance and Support (R)

The Proposer shall describe their preferred maintenance and support arrangements. This may be split into two phases:

- initial development and deployment

- production support

As specified in Paragraph 5.6, for any individual requirement that does not have compatibility with KCM's internal support requirements, Proposer shall include specific maintenance language for that item.

5.16.1 Test Procedure Requirement (R)

System Maintenance shall be performed on a test system (without up-time constraints) prior to maintenance on the production system. Proposer must include any hardware requirements if a separate test system is proposed.

5.16.2 Service-Level Agreements (SD)

The Proposer is to specify the service-level agreements (SLA's) it can offer regarding ongoing maintenance and support of the IVR System. Aspects to be addressed include:

- Grading of issues into different levels (such as cosmetic, minor, major and critical)

- Response times and resources applied to each issue level

- Escalation options and processes

- Process for identifying and resolving IVR System bugs and errors

- Penalties for failing to meet SLA response times

- Documentation of errors and resolutions

- Hours of support

5.16.3   Software Upgrades (R)

The Proposer shall describe the provisions for obtaining software upgrades. This includes any automatic upgrades during the deployment or maintenance periods.

Beyond this, the Proposer shall specify the expected frequency of upgrades, and associated costs if not included in annual maintenance and support. An outline should also be provided of the process for migrating to these new versions, including appropriate regression testing.

5.17 Testing (R)

Testing tasks shall be completed by KCM and vendor personnel. Proposer shall provide the proposed approach to testing, and include reference to the following:

- Test Plan

- Test Tools and Logging

- Test Failure Resolution

- Test Phases

5.18 Training (R)

Training shall occur on a test system using KCM transit data. Remote training is preferred, for example, via speakerphone and internet facilitated visuals. Proposer shall list any training materials that exist for the IVR System, and the training services they can provide including:

- Administrator Training - Minimal "power training" is expected for the IVR administrator, to occur after integration testing. Administrator training will not be contiguous.

- Systems Management Training

5.19 Documentation (SD)

Documentation shall have sufficient information to allow the IVR System to be managed entirely by internal staff.

It is also important that the documentation be of high quality, accurate, and simple to use. The Proposer shall identify any areas not completely addressed by the documentation.

5.19.1   System Administration (SD)

Documentation shall be provided for the administrator to manage the IVR System administrative tasks to maintain the customer interface. The preference for documentation is on-line help (as opposed to paper documentation) with an index and links to examples and additional information where applicable.   Proposer shall specify help functions available for administration.

5.19.2 System Management (D)

Documentation shall be provided for internal IT support staff to manage the hardware and software platforms. Proposer shall specify documentation to be provided.

5.20 Knowledge Transfer Partnership (SD)

The implementation of the system shall be collaborative between vendor and KCM resources. It shall include but not be limited to the verification and acquisition of KCM data, menu development, vocabulary creation, and other tasks. Please indicate how the Proposer shall accommodate this arrangement.

MANAGEMENT SPECIFICATIONS

6. Management Requirements

6.1 References (R)

The Proposer shall provide references including contact information of clients that have had similar projects, and who can indicate the competency and quality of the Contractor's work. In addition, the Proposer shall provide a number of reference sites in which the proposed IVR System solution is being used in production, in an environment similar to KCM's. These sites shall:

- demonstrate how the software may be applied in a real situation

- match our requirements closely enough that direct comparisons can be made

- be successful implementations, with any issues highlighted

- be described in an accurate and realistic way (promotional or sales brochures are not appropriate)

- provide us with confidence that the IVR System will meet our specific needs

- The Proposer shall provide two (2) recent references of projects of similar size and quantity performed by the Contractor. For these recent projects, the Work should have been completed within the last two (2) years.

- Provide the following information for each project:

- Owner:

- Location:

- Contact Name, phone number, e-mail address:

- Date of Installation:

- Number, type & version of the IVR System

- Number of on-site administrators

- Project manager

- General description of the services and outcomes provided

- Names of any subcontractors that are also proposed to perform work under this RFP

- Proposer shall answer the following:

- How many IVR clients do you currently support?

- What percent of your business comes from your top three clients?

- How many individual contracts do you currently have?

- How many years have you been in business doing IVR related work?

> **a. Transit Experience (R)**
>
> At least one of the reference sites shall be a public transit agency that includes bus service in the United States of America.

6.2   Proposer staff and resources (R)

The Proposer shall clearly indicate the staff and resources that can be brought to bear on the project. This shall be a realistic estimate, based on the actual staff and resources that the Proposer has available at the present time.

Project implementation shall take place at King County offices. KCM desires that configuration take place on site , but recognizes that this may not be feasible in all cases. The Proposer shall indicate what activities will take place and what staff will be onsite during the project.

If the Proposer plans to subcontract work to other businesses or Contractors, this shall also be specified.

For each key staff person with the Contractor's organization, provide a brief resume, outlining skills and experience. Note that these staff will be free to actually work on this project, and not just be indicative of the overall characteristics of the Contractor's staff. Individuals who are identified should not be replaced midstream. Any resource replacement for the project shall be mutually agreed upon.

6.3   Change management (SD)

The Proposer shall indicate their recommended approach to change management requirements of the project. While the Proposer may propose a range of initiatives to address this issue, the following shall be covered:

Involving administrator throughout the project

ensuring both administrator and customer needs are met

clearly communicating the goals and status of the project to all stakeholders (including the administrator)

The change management activities are an effective way of reducing tool-user resistance to change, and they help to ensure project success. The Proposer should therefore demonstrate its commitment to these principles.

6.4   Project management (R)

The Proposer shall specify its preferred project-management methodology for the project. A high-level project plan shall also be provided, showing:

- proposed activities, such as: workshops, project planning, prototyping, development, testing, deployment (this list is not comprehensive)
- suggested timing for these activities
- rough estimates for the resources (people and time) needed to complete these tasks

While a full project plan shall be developed with the successful Proposer, this requirement is intended to identify the level of professionalism and maturity the Proposer can offer in the area of project management.

6.5   Proposer information (R)

- Provide the name, address, and telephone number of legal entity with which Contract is to be written.
- Provide the name, address and telephone numbers of principal officers (President, Vice-President, Treasurer, Chairperson of the Board of Directors, and other executive officers.)
- Describe the legal status of the Contractor.
- Provide the Contractor's business license numbers for states other than Washington.

- List the names, titles, and telephone numbers of persons authorized to conduct contract negotiations with the County.

- Evidence of adequate financial stability is a prerequisite to award of a Contract regardless of any other consideration. The Proposer shall submit financial resources information according to PART A, Section 2-3 Responsiveness and Responsibility.

- Provide the following financial details about your organization:

  1. Audited financial statement for the last three years and any related management letters

  2. Details about the bank you work with

  3. Details about your lines of credit. How much is currently available?

  4. Certificate of liability insurance. What is the amount? Are you covered for errors and omissions?

  5. Details about all claims and judgments in the past three years. What were the natures of these? Are there any cases pending?

  6. Three credit references, including the name of the institution and the name and phone number of contacts for each institution.

  7. Are your employees bonded? What is the extent of the bonds?

PRICING & RESOURCES SPECIFICATIONS

7. Pricing and Resources

Proposers shall identify and price all goods and services needed to support the scope of work included in this RFP. Proposers shall identify and price optional goods and services as well.

King County estimates that the entire combined cost for sections 0 through 0 ranges from $180,000 to $290,000. KCM will determine whether price is fair and reasonable at the time of purchase. Proposers shall provide pricing documentation upon request by King County.

7.1 Pricing information

Proposers shall provide a detailed breakdown of the total price associated with deploying the IVR System for the following categories:

- Services
- Hardware, Software and Materials, including required Options
- Software and Equipment Maintenance
- Future Work

Proposers shall provide task-level work for KCM required resource work associated with deploying the IVR System.

The Proposer shall complete the pricing and resource tables in "Part C Section 3 - Proposer Response Template."

7.1.1 Services

For each description of work, Proposer shall provide the duration and hours required. Include any additional work expected but not specifically identified in the work description.

7.1.2 Hardware, Software, Materials

Given the recommended configuration of hardware, software and users based on King County Metro needs, Proposer shall list the unit price for all hardware, perpetual licenses, and materials. Include any alternative pricing models available. This section includes specific third-party software used to provide the complete IVR functionality. It is important that the Proposer specify exactly which third-party software packages will be needed, based on specific requirements. Sufficient information shall be provided to allow KCM to assess the overall cost of the total IVR solution. Indicate the features, manufacturer and any relevant specifications.

7.1.3 Software and Equipment Maintenance

For the recommended licensing as detailed in Paragraph 0 and as described in Paragraph 5.16, Proposer shall indicate the full support and maintenance costs for the IVR System. Describe any conditions and limitations.

7.1.4 Future Work

Functionality described as future work under "Part C Section 2, SECTION 2 4 Future Work" shall be priced in this section. Include estimated services required to implement such future work, and associated maintenance costs, if any. King County reserves the right to add Future Work options under the contract at a later date.

7.1.5   KCM Work

a.   Data Interface

If the proposed IVR System requires a data interface feed, KCM will build the interface. The estimated cost of the work will be added on to the bid proposal. Proposer shall indicate responsibility by task and work for any such interface requirements. KCM will add cost based upon current County labor rates at time of proposal evaluation.

b.   Voice Data Creation

If the proposed IVR System requires creation of all voice data, Proposer shall indicate that responsibility. If proposed solution requires KCM work in creation of voice data, KCM will add cost based upon the estimated work to complete and current County labor rates at time of proposal evaluation.

TERMS AND CONDITIONS

ACD (ACDS)	Automatic Call Distribution (system) - a system that manages calls via queues and/or by routing calls to agents in an ordered manner.
ADA	Americans with Disabilities Act, The Federal Americans with Disabilities Act of 1990 requires public transportation agencies to take specific steps to make facilities, vehicles and services accessible to persons with disabilities.
ATIS	1) Automated Transit Information System 2) Automated Trip Itinerary System. KCM's trip planner and internal customer support interface system is provided via a Trapeze ATIS system.
AVR	Automated Voice Recognition
Baudot Messages	Information transmitted using a character set (Baudot code,) sometimes to provide access to TTY devices on the same line as regular voice
Bi-Weekly	Internally at KCM, 'bi-weekly' references a specific 14 consecutive day time period that starts on a Saturday during which a Hastus schedule - and all related Stops, Sequencing, GIS and other components are in effect.
Bi-Weekly Load	The data load from HASTUS to TED that will define a 'bi-weekly.'
Block	The operating schedule of a revenue vehicle from the time it leaves the base until it returns to the base. An ordered sequence of trips, or a route/run pairing (e.g., Route 5, Run2) between the vehicle pull-out and pull-in at the base.
Build	Any process of incorporating transit data from the KCM source data system into the IVR system.
Bus	A rubber-tired passenger transportation vehicle
Bus Stop	On-street location where transit vehicles stop to pick up and let off passengers. Also referred to as 'bus zone' or 'zone.'
Bus Time	1) The public name for KCM's automated telephone information system that provides scheduled departure times for buses at bus stops, 2) Transit schedule data part of the IVR system including the customer-facing schedule information, schedule data maintenance and schedule data interfaces to and from the system. Basically the software and data portion of the system.
Bus Time Pattern	Bus Time Pattern shows Timepoints, Timepoint Interchange paths and Stops as they relate to each other.
Bus Time Stop Number/ID (BTSN)	A four-digit number assigned to one or more routes at one or more Stops based upon similar destination, proximate departure location and service type; one stop may have more than one BTSN and one BTSN may be assigned to multiple consecutive bus stops based on specific criteria

CAO	See Customer Assistance Office
CBD	Central Business District (of Seattle)
Central Office	Specifically refers to a telephone service provider's (telco's) central office – or switch.
Channel	Individual voice phone "line" within a T1
CITRS	Customer Information & Technology Resources Staff – the work group within KCM's Customer Services Section that administers the Bus Time & IVR systems.
CLI	Command Line Interface
Client	The Metro internal personnel (CITRS staff) who have administrative responsibilities for the IVR system contents.
CO	Central Office, see Central Office
Commuter Rail	A transportation mode providing passenger service via railroad cars pulled by a locomotive. "Heavy rail" as opposed to light rail.
Current	The schedule in effect at the present time.
Customer	A transit user or potential user of KCM's automated phone system.
Customer Assistance Office	A customer service office at KCM that provides a forum for the transit customer to register complaints, commendations and service recommendations. Called "C A O."
Data Load	The KCM internal process of publishing HASTUS or other data from one internal location to another.
Data Set	A specific collection of data; may be used in many contexts, usually with additional specific identifying descriptors.
Day Type	See Schedule Type
Destination	The ending point of a transit trip
Direction	Direction of travel of a revenue vehicle, e.g. north, south, east, or west.
Division	A transportation mode type such as Light Rail, Bus, Commuter Rail, Ferry, etc.
DSS	Digital Subscriber Signal type – a "flavor" of T1 telephony; 'DSS T1' as opposed to 'PRI T1.'
DTMF	Dual Tone Multi-Frequency - touch-tone
Effective end Date	The date and time for a particular schedule which specifies when that schedule no longer represents actual transit service.
Effective start date	The date and time for a particular schedule which specifies when that schedule begins to represent actual transit service.

Express	In schedule data, a designation of an express route
Express Route	A route that skips one or more stops along the route and/or takes a shorter path than the local route of the same number.
Future	The schedule in effect after Next.
GEO	Geographic Database
Geographic Pattern	Ordered sequence of TPI's
GIS	Geographic Information System; computer maps and related databases
GUI	Graphical User Interface
Hastus	KCM's transit scheduling software
Hastus Load	A load or transfer of HASTUS data to an internal KCM location, such as TED
Hastus Pattern	The ordered series of Timepoints (TPs) traversed by a bus during a trip
Headway	Time interval between successive in-service vehicles traveling in the same direction, usually expressed as an average number of minutes.
I&I	Infrastructure and Integration, a workgroup of KCDOT that includes system and network support and services.
Inbound	1) In schedule data, a designation of I, 2) Travel toward an attraction area
Interlining	Blocking (hooking) trips together on different routes that share the same terminal. Often used on routes that travel common streets for part of their length. May be in the same route group.
IVR	Interactive Voice Response
IVR System	The complete hardware and software setup that provides the customer with phone-based transit information, and provides the administrator with facilities to manage the system.
KCDOT	King County Department of Transportation
KCM	King County Metro
KCWAN	King County Wide Area Network
L&F	See Lost & Found Office
LAN	Local Area Network
Light Rail	A transportation mode providing medium volume passenger service via rail cars running on fixed rails, powered by overhead electrical source & as opposed to Commuter Rail

Limited Service	"Limited Bus" service is intermittent or seasonal in nature, providing travel to and from special events on fixed routes.
Limited Stops	Service that runs according to the route's express schedule, making fewer stops than the local version of the route along parts of the path
Link	Any linear segment in the base map that represents a physical or geopolitical feature, e.g. a street or district boundary. All GIS links are defined by a node at each end.
Link Light Rail	The name of Sound Transit's Light Rail system
Load the Build	The process whereby the transit data results of 1) a Hastus load to TED, 2) SIS updates to TED 3) GIS updates to TED and 4) ATIS updates to TED are made available "to or in" the IVR/Bus Time system.
Local Route	A bus on a local route makes all stops along the route.
Local Stop ID	SIS Stop ID - The unique identifying number that KCM assigns to a bus stop in its internal 'Stop Information System (SIS)' source database. SIS Stop IDs are maintained by KCM Transit Route Facilities Planner staff.
Log	A record of events, used for system information, backup and recovery, and review of any automated data manipulations
Lost & Found Office	A customer service office at KCM that accepts and manages items lost on transit property, such as buses, vans, transit centers or at stops. Transit customers can call or visit the Lost & Found office to identify and recover lost items. Also written as "L&F."
Major Boarding Point	A high-ridership boarding point such as a Transit Center, Park and Ride, mall entrance, main college boarding area, etc.
Manage the Build	The processes used by the IVR Administrator to prepare and finalize the transit data for customer use.
Menu	1) a recorded/spoken user interface that provides options for user selection via touchtone input such that the user is able to attain their desired information 2) a graphical user interface which provides options for user selection such that the user is able to perform some desired function
Metro	The Transit Division of the King County Department of Transportation
Mode	A means of transportation: Auto, bus, rail, etc.
Nearside Stop	A bus stop located immediately before an intersection or other landmark.
Next	The schedule in effect after Current. See also 'Future.'
Node	In GIS, a location that signifies the end of a Link. Typically but not always at the center of an intersection. A node number is a numeric code given to an exact location, or node, identifying it as a specific timepoint. More than one route can use the same node number.

NTD	National Transit Database
Off-Peak	Service during weekdays outside of a defined "peak" period or on weekends
Origin	The starting point of a trip
Outbound	1) In schedule data, a designation of O, 2) Travel away from an attraction area
Park-and-Ride (P&R)	A facility intended for Metro customers to park their cars and ride the buses, carpools, or vanpools that serve that lot.
Passenger	An individual who rides a transit vehicle.
Path	A directional sequence of Links. A detailed description of how a vehicle travels along the street network. Commonly describes a 'timepoint interchange' - the path of a route or bus between two timepoints - in revenue or deadhead service.
Pattern Identifier	A unique identifier - determined by the HASTUS scheduling system & defined in the HASTUS scheduling pattern file - for a schedule pattern, 'aaa-b-ccc' where the first 'aaa-' is the Route Number. The '-b-' is a '0' or '1' directional designation, used in coordination with an 'I' or 'O' also found on the identification line for each Pattern. The '-ccc' is the Pattern sequence # that ensures uniqueness.
Pattern Number	The HASTUS Pattern Identifier for a specific scheduling pattern
Pattern Part	Optional 'E,' 'N,' 'S' or 'W. designation, determined by Schedulers & based on specific criteria. Approximately 11 KCM routes have "parts."
PBX	Private Branch Exchange. The PBX referenced in this document specifically refers to the PBX in the King Street Center building, 201 S. Jackson in Seattle. The PBX is Qwest equipment
Phone Line	A single-user circuit on a telephone communications system
PSA	Public Service Announcement - a message provided to inform the public on special services or other public affairs
RAM	Random Access Memory
reroute	A temporary routing used to avoid traffic blockages due to construction, emergencies, etc. Consists of a series of streets that leave an established route at a specified point and rejoins it at a specified point.
RFP	Request for Proposals, an explanatory document use to solicit proposals for a project.
Rider Information Office	A KCM customer service office that provides trip planning assistance to transit customers. Called "R I O."
RIO	See Rider Information Office

Route	1) For this purpose, a bus or other transit entity understood internally and by Customers as a scheduled, numbered transportation service identified by number and signage as serving a particular corridor of travel, neighborhood or destination according to its schedule. 2) A collection of paths related by serving some passenger trips in common, identified by a number. There may be different variations of a route – Express v. Local, etc.
Route Group (other)	Routes combined on a pair of schedule pages, one for each direction. The route group's number becomes the route number of the route/run numbering system for blocks scheduled on the schedule pages.
Route Number	The number assigned to a specific route. Currently, route numbers at KCM are numerical only and 1-3 digits.
Route Part	Segment of a two-part route N,S,E or W of the primary attraction or transit center. A route part is used in conjunction with a route number when designated by a KCM Scheduler.
Route Variant	Used somewhat differently by both (KCM's) Scheduling and Transit Route Facilities groups, but generally referring to cases where there is more than one variation of the same route number; a unique version would be a variant of the route.
Route/Run	An internal numbering system to identify individual coach assignments.
Running Time	Amount of time allocated to travel from one timepoint to another at a given time of day on a given day of the week. In current KCM scheduling software, a standard for all routes using the same timepoint interchange.
Schedule	Data set defining transit service for a division from an effective start date to an effective end date.
Schedule Page	A table of timepoints and trips in a given direction for a Route Group
Schedule Pattern	A schedule pattern is a subset of a schedule block. There are various types of schedule patterns - service, deadhead, etc.
Schedule Type	A designation associated with a trip that identifies it for use on a specific type of day, currently Sunday, Saturday and Weekday
Scheduling Pattern File	Shows all service patterns (revenue). Sometimes called a Hastus Pattern File.
Script	The set of programmed instructions that configure the spoken menus in the IVR System.
Service Change	The addition, deletion or modification of service resulting in the physical realignment of a transit route, or a change in the type or frequency of service provided; may also include schedule, vehicle-type, facility or other related changes. See Shakeup
Service Day	KCM's operates some buses on a "service day" from midnight through early morning – a 30 hour service day; in some cases service from the previous day is still operating at the same time that service for the new day begins.
Shakeup	The period of time during which a service change or a particular set or operator assignments is in effect.

SIS	The Stop Information System – administered by KCM's Transit Route Facilities workgroup.
SIS Pattern	SIS Patterns are based on HASTUS Patterns, but show Stops instead.
SIS Stop Number / ID	SIS Stop ID, the internal 2-5 digit unique number assigned to a specific stop within the SIS system.
Sound Transit	A regional transit provider. KCM operates some and provides customer service for Sound Transit Routes.
SOW	Scope of Work, a detailed list of project tasks and expectations contractually agreed upon between a vendor and King County
Special Service/Event	Planned bus service for sporting events, festival, fairs or other major Puget Sound area events
SQL	Structured Query Language
Street Link	The linear representation of a street between two street nodes in GIS.
Street Node	A point (in GIS data) that represents an intersection of two or more street links.
Streetcar	Street transit mode – a form of light rail - consisting of electrically powered rail vehicles operating in one to three car trains. KCM's streetcar schedule data is included, and is structured the same as regular bus schedule data.
T1	Full-time 23 or 24 voice channel connection to the Central Office switch. KCM's T1 lines are DSS
TCIP	Transit Communications Interface Protocol, data interface standards for transit subsystems. The family of standards represents many of the data concepts, data elements, and messages exchanged between transit subsystems.
TDD	Telecommunication Display Device, a type of TTY. See TTY also.
TED	The Transit Enterprise Database. A KCM database that contains coordinated data from various transit systems including scheduling data, stop data and geographic data. A database that merges original data and additional common data to provide a well-documented and unified source of information as needed by Transit Agency applications and reports.
Time Point	An exact location along a route where trips are assigned a specific arrival or departure time
Timepoint	A location (associated in GIS with a node) along a route where trips are assigned a specific arrival and/or departure time.
Timepoint ID Number	A unique integer given to a named location, identifying it as a specific timepoint.
Timepoint Interchange	A path between two timepoints. Often referenced by the two timepoint ID numbers. KCM's data model assumes a single, *unique* path between any timepoint pair.

TP	Time Point or timepoint
TPI	Time Point Interchange, Two consecutive TPs = a TPI. A geographical designation. The path _unique_ between two timepoints.
Transit	Urban public transportation services with fixed routes and schedules, such as bus, trolleybus and rail services.
Transit Center	A location where groups of buses or other public transportation vehicles can be brought together at the same time, facilitating transfer between the routes or services.
Trip	1) An individual passage from one place to another, e.g. bus trip or passenger trip. One passage of a bus past all the timepoints in a pattern or on a route, or one passage of a passenger from origin to destination, 2) A temporal instance of a pattern – a Hastus pattern that has time and a day of the week assigned to it.
TSS	Transit System Support, a workgroup of KCDOT that includes database and programming support and services.
TTS	Text-To-Speech
TTY	Teletypewriter, also called a text telephone, and used in conjunction w/'TDD' (See also TDD). A device to provide interactive, text based communication by transmitting signals across phone lines.
UPS	Universal Power Supply
Vias	A spoken data element in KCM's Bus Time system that describes the areas served by a route by using the term "…via…."
Voice Interface Card	Hardware that recognizes and generates touchtones (DTMF tones) and/or records and plays speech. Also called a voice card or telephone voice card.
Water Taxi	A transportation mode in KCM's system. The Elliott Bay Water Taxi is a Transit boat that operates a fixed route between Downtown Seattle's waterfront and a pier in the West Seattle neighborhood. It is a seasonal scheduled route with scheduled stops that is accommodated in KCM's source data systems and needs to be reported in the Bus Time system.
Zone	See Bus Stop

SECTION 3   PROPOSER RESPONSE FORM

Transit IVR System RFP Response Form

O = Out of the Box supported capability
X = Customization is required for this requirement (include additional cost in pricing section)
N = Not supported

1.   Customer Interface – Quesstions pertain to the operational flow and features provided to the calling customer.

Item #	Requirements	Need	Contractor response	O, X or N	Menu Reference
1	Does the proposed system provide 24 hour per day (24 x 7) touchtone access to the voice menu system?	Required			
1.1.	In what ways is the proposed menu structure similar to KCM's current IVR menu structure and what optimization or enhancement recommendations do you have for any differences?	Strongly Desired			
1.2.	Describe the proposed solution to KCM's customer interface requirements in general, and provide a proposed menu structure diagram.	Required			
1.2.1.	Does the proposed system provide for an initial welcome message to callers?	Required			
1.2.2.	Does the proposed system provide for an optional independent message to be spoken after the welcome message?	Required			
1.2.3.	What is the proposed option or options for calls that time out?	Required			
1.2.4.	How does the proposed system promote automated transit information as a first-choice over transfer to a live representative?	Required			

Item #	Requirements	Need	Contractor response	O, X or N	Menu Reference
1.2.4.a.	Indicate in the menu structure, or explain how the customer determines the option to transfer to a live agent and executes the action in the first menu level.	Required			
1.2.5.	Does the proposed system support key-ahead of touch-tone inputs?	Required			
1.2.6.	Does the proposed system allow for a consistent touch-tone selection throughout the customer interface such that the customer can request a transfer to the RIO? If not, explain any exceptions.	Strongly Desired			
1.2.7.	Does the proposed system allow the customer to request a repeat of the current or previous voice message, and what is the proposed procedure?	Strongly Desired			
1.2.8.	How does the proposed system allow the customer to request a return to the first level (main) menu?	Strongly Desired			
1.3.	How does the proposed system meet accessibility standards	Required			
1.3.a.	What level of accessibility can be met in the proposed system?	Strongly Desired			
1.3.b.	What accessible reference sites of the Proposer achieve this level of accessibility?	Required			
1.4.	Does the proposed system provide automated scheduled bus departure times at customer-specified locations?	Required			
1.4.1.	Indicate the ability of the proposed system structure to provide multiple departures per location.	Required			

Item #	Requirements	Need	Contractor response	O, X or N	Menu Reference
1.4.2.	Indicate the ability of the proposed system to speak route identification as part of the schedule departure information.	Required			
1.4.3.	Indicate the ability of the proposed system to speak the destination of travel including path specific information such as local or express travel, and travel via an object of interest (landmark, transit element, other.)	Required			
1.4.4.	Does the proposed system provide multiple scheduled departure times for both immediate (next bus) and customer-specified departure times?	Required			
1.4.4.a.	Indicate how the proposed system handles a customer request for the next bus departures.	Required			
1.4.4.b.	Indicate how the proposed system handles a customer request for bus departures on a specified day and time in the future.	Required			
1.4.5.	At what location level does the proposed system provide scheduled departure information?	Strongly Desired			
1.4.6.	Describe any optimization in the proposed system that attempts to ensure the quickest (earliest) customer retrieval of their desired departure information.	Strongly Desired			
1.4.7.	Does the proposed system provide savvy customers the ability to enter the BTSN early in the process to request scheduled departure information?	Required			
1.4.7.a.	How does the proposed system account for multiple routes leaving a location, routes with different destinations leaving a location, routes with different paths?	Strongly Desired			

Item #	Requirements	Need	Contractor response	O, X or N	Menu Reference
1.4.8.a	How does the proposed system provide a "last bus" message to indicate the last bus of a service day to a customer's desired destination?	Strongly Desired			
1.4.8.b.	What capabilities does the proposed system have to provide temporary service disruptions information?	Desired			
1.4.8.c.	What capabilities does the proposed system include to provide holiday exception information?	Desired			
1.4.8.d.	What other helpful messaging features does the proposed system support?	Optional			
1.5.a.	How (where) does the proposed system provide generic informational messages?	Desired			
1.5.b.	How (where) does the proposed system provide special service route information?	Strongly Desired			
1.5.c.	How (where) does the proposed system provide emergency messages?	Strongly Desired			
1.6.	Does the proposed system have capabilities to transfer callers to live persons or voicemail and to ACD managed queuing systems?	Required			
1.6.1.a.	Does the proposed system provide an informational message to callers who request a transfer to an ACD managed workgroup during scheduled closed hours, and then return the caller to the first level menu?	Required			
1.6.1.b.	Does the proposed system transfer a caller upon request to a specific ACD managed workgroup during scheduled open hours and provided an agent or queue	Required			

Item #	Requirements	Need	Contractor response	O, X or N	Menu Reference
	space is available?				
1.6.1.c.	How does the proposed system manage callers who request transfer to a ACD managed workgroup during open hours when all agents are busy and the queue is full? Explain the management of such calls if the system does not provide the desired functionality.	Strongly Desired			

2.   IVR Administration – Questions pertain to the administrative features for internal management.

Item #	Requirements	Need	Contractor response	O, X or N	Interface Reference
2	Does the proposed system provide 24 hour per day (24 x 7) access (excluding certain maintenance hours) to administrative functions?	Required			
2.1.	Describe the administrator interface requirements in general, and provide sample screen shots and a high-level diagram of the administrative structure.	Required			
2.1.1.	Is the administrator interface accessible via networked PC?	Required			
2.1.1.a.	Provide a high-level description of the administrative environment including any remote access capabilities.	Required			
2.1.2.	Describe the security capabilities with respect to users and data.	Required			
2.1.3.	Is the administrator interface primarily menu driven, and what options are available outside of the standard interface?	Required			
2.1.4.	Describe the consistency of the menus in the proposed system's administrator interface.	Strongly Desired			
2.1.5.	Does the proposed system provide drop down, fast-key and right-click selections for cut, copy, past, find, replace, delete and other often-used functions?	Required			

Item #	Requirements	Need	Contractor response	O, X or N	Interface Reference
2.1.6.	What colors and fonts are provided to support visually impaired users and provide consistency with other Windows applications?	Strongly Desired			
2.1.7.	Explain any menu functions that are configurable and any system response when changes are made.	Desired			
2.1.8.	Describe how data changes are handled by the system, especially focusing on actions which commit data in the live system.	Strongly Desired			
2.2.	Describe the proposed flow of administration functions for incorporating new schedule data into the system.	Required			
2.2.1.	Does the proposed system support multiple data sets, and what, if any, is the limit to the number of data sets supported?	Required			
2.2.2.	How does the administrator identify a data set within the proposed system?	Required			
2.2.3	How does the administrator delete a data set in the proposed system?	Required			
2.2.4.	How does the proposed system rely upon administrator initiation of any new data integration (build) procedures?	Required			
2.2.5.	How does the administrator select the source data set to use for new data integration (the build) in the proposed system?	Required			
2.2.6.	Does the proposed system provide a comparison of an administrator identified source data set with an IVR System data set?	Required			

Item #	Requirements	Need	Contractor response	O, X or N	Interface Reference
2.2.6.a.	What changes between two compared data sources are reportable in the proposed system?	Strongly Desired			
2.2.6.b.	What is the default format for data set comparison reports and what other formats are provided.	Strongly Desired			
2.2.6.c.	For on-screen reporting, what type of printout is provided for by the proposed system?	Strongly Desired			
2.2.6.d.	What configurable parameters govern the data change comparison?	Strongly Desired			
2.2.7.	Describe how the proposed system incorporates new data into the IVR System.	Required			
2.2.7a.	Describe the extent to which the data integration process requires monitoring by the administrator.	Required			
2.2.7.b.	What detail reports are available as a result of the build?	Desired			
2.2.7.c	What error reports are generated from the build?	Desired			
2.2.7.d.	What is the time estimate to complete a build?	Desired			
2.2.8.a.	What types of administrative views are available to manage the data in the system, and attach screen shots of some examples.	Strongly Desired			

Item #	Requirements	Need	Contractor response	O, X or N	Interface Reference
2.2.8.b.	How does the administrator make detail data changes or additions within any data set?	Strongly Desired			
2.2.9.a.	How is via information managed in the proposed system?	Strongly Desired			
2.2.9.b.	How does the proposed system allow for overriding or automating default speech data associations for routes?	Required			
2.2.9.c.	How are any special optimizing features (such as boarding locations) administered?	Strongly Desired			
2.2.9.d.	What administrative functions are provided to ensure that location vocabulary and linkages are correct?	Strongly Desired			
2.2.9.e.	How are BTSN's assigned and managed?	Strongly Desired			
2.2.9.f.	Can the BTSN be expanded or changed, and how?	Desired			
2.2.9.g.	Describe other aspects of transit information administration in the proposed system.	Desired			
2.2.10	How are the spoken departure times at a location determined in the proposed system?	Strongly Desired			
2.2.11.a.	How does the proposed system manage loop routing?	Strongly Desired			

Item #	Requirements	Need	Contractor response	O, X or N	Interface Reference
2.2.11.b.	How does the proposed system ensure accurate departure times for routes with different routings?	Desired			
2.2.11.c	How does the proposed system ensure that departure times are used at layovers?	Desired			
2.2.11.d.	Are there any additional features of the proposed system that do not require customization or additional cost?	Desired			
2.2.12.	Does the proposed system allow the administrator to specify when a data set becomes accessible to the customer?	Required			
2.2.12.a.	Explain administration of data set availability to the customer, including any automated features for assigning availability dates.	Required			
2.2.12.b.	How does the proposed system provide for administration and correlation of effective and available dates of data sets, and is this accomplished at a date and time level?	Strongly Desired			
2.2.12.c.	What safeguards does the system have in place to ensure that there is always a schedule available to the customer?	Required			
2.2.13.	How does the proposed system manage KCM's current schedule types (Weekday, Saturday, Sunday?)	Required			
2.2.13.a	How does the proposed system accommodate other schedule types, either automatically or manually administered?	Strongly Desired			

Item #	Requirements	Need	Contractor response	O, X or N	Interface Reference
2.2.13.b	How does the proposed system support route- or trip-level special schedule assignments?	Strongly Desired			
2.2.13.c.	How would the proposed system accommodate future addition of schedule types?	Strongly Desired			
2.3.	Give an overview of the proposed systems capabilities with respect to transit service for different divisions, such as light rail and commuter rail.	Required			
2.4.	Does the system collect call data?	Required			
2.4.1.	Are reporting periods selectable by the administrator and to what extent?	Strongly Desired			
2.4.2.	What is the level of detail obtained by the reports with relation to the customer flow through the menu structure?	Strongly Desired			
2.4.3.	What type of system usage data is available?	Strongly Desired			
2.4.4.	What are the reporting, output, and export options for the data?	Strongly Desired			
2.4.5.	Does the proposed system automatically generate and store the data and what are the configurable options?	Required			
2.4.6.	How does the proposed system manage the storage of collected data?	Strongly Desired			

Item #	Requirements	Need	Contractor response	O, X or N	Interface Reference
2.4.7.	Describe the proposed system's account controls with respect to usage report data and functions, ensuring that reports are accessible to an administrative user without granting additional access.	Required			
2.4.8.	Provide any additional reporting features included in the proposed system.	Optional			
2.5.	Does the proposed system include speech management capabilities for the administrator?	Required			
2.5.1.	How does the administrator create a new speech recording?	Required			
2.5.2.	What editing features are provided for vocabulary?	Required			
2.5.3.	How is speech data stored and managed by the administrator?	Desired			
2.5.4.	How does the proposed system ensure that vocabulary exists for all data required by the customer interface?	Required			
2.6.	What are the overall administrative functions provided for management of the spoken menus?	Required			
2.6.1.	What are the administrator's capabilities for managing general messages such as the welcome, universal announcement, static messages, etc.?	Required			

Item #	Requirements	Need	Contractor response	O, X or N	Interface Reference
2.6.2.	Provide an overview of administrative tools for managing spoken departure information.	Strongly Desired			
2.6.2.a.	How does the administrator configure the number of spoken departures per location and route pattern?	Required			
2.6.1.b.	How does the administrator configure the number of different routes announced at a location?	Required			
2.6.1.c.	How does the administrator configure a threshhold for announcing departures?	Required			
2.6.1.d.	What administrative options are provided to assist with helpful messages?	Required			
2.7.	What capacity management and load balancing capabilities are provided by the proposed system?	Strongly Desired			
2.8.a.	How does the administrator set the time-out latency?	Strongly Desired			
2.8.b.	How does the administrator manage accessibility features?	Required			
2.8.c.	Describe the management of workgroup hours of operation for ACD managed phone numbers.	Required			
2.8.d.	What administrative options are available for non-ACD transfers?	Strongly Desired			

Item #	Requirements	Need	Contractor response	O, X or N	Interface Reference
2.8.e.	How many transfer numbers may be managed in the system?	Desired			
2.8.f.	How does the administrator monitor traffic in real-time in the proposed system?	Desired			
2.8.g.	What other features does the proposed system provide to the administrator to assist with call management?	Desired			

3. Data Requirements

Item #	Requirements	Need	Contractor response	O, X or N
3.1.1	Will the proposed system function with KCM's existing telephony platform?	Required		
3.1.1.a.	What are the T1 requirements for the proposed system?	Required		
3.1.1.b.	What are the voice processing hardware requirements for the proposed system?	Required		
3.1.2.	Show how the proposed system places the PBX behind the IVR System.	Required		
3.1.3.a.	Does the proposed system ensure availability of the requested number prior to transferring the call to the appropriate destination and release all related IVR lines?	Required		
3.1.3.b.	Does the proposed system recognize when a busy condition is in effect and not transfer the call?	Required		
3.1.3.c.	Does the proposed system return the caller to an IVR menu option when a requested transfer does not occur?	Strongly Desired		
3.1.3.d.	Does the system release the circuit for interrupted transfers?	Required		
3.1.3.e.	Does the system identify disconnects?	Required		

Item #	Requirements	Need	Contractor response	O, X or N
3.1.3.f.	Are disconnects instantaneously released?	Required		
3.1.3.g.	What are the differences between ACD and non-ACD call transfer scenarios?	Strongly Desired		
3.1.3.h.	Describe the expected call processing time(s) and usage of system resources for transfer scenarios.	Desired		
3.2.1	Provide a complete set of architectural diagrams for the proposed system, including logical component architecture and functional decomposition architecture.	Required		
3.2.2.	How does the system provide the flat file export as described?	Required		
3.2.2.a.	How does the administrator identify the export file?	Required		
3.2.3.a.	Does the source data for the IVR system come from the TED?	Required		
3.2.3.b.	What specific data is required to set up the base system, including data type and format?	Required		
3.2.3.c.	What specific data entities are expected from the TED, including the expected format of that data?	Required		
3.2.3.d.	Can the proposed system use the existing BTSN's to populate the base system?	Optional		

Item #	Requirements	Need	Contractor response	O, X or N
3.2.4.a.	What capabilities does the system's database have to run on KCM's server?	Strongly Desired		
3.2.4.b.	To what extent can the proposed system's database be incorporated into the TED?	Desired		
3.2.5.a.	What is required to support re-use of existing speech data for base system population?	Strongly Desired		
3.2.5.b.	Will the speech data reside in a database?	Required		
3.2.5.c.	How loosely coupled to the application is the speech data and can it be separately moved, changed or utilized outside of the IVR System?	Strongly Desired		

4. Future Work

Item #	Requirements	Need	Contractor response	O, X or N
4.1.	Describe current and future requirements, capabilities and benefits of the proposed system to support professional speech services	Optional		
4.2.	Describe current and future requirements, capabilities and benefits of the proposed system to support text-to-speech.	Optional		
4.3.	Describe current and future requirements, capabilities and benefits of the proposed system to support voice over internet.	Optional		
4.4.	Describe current and future requirements, capabilities and benefits of the proposed system to support automated speech recognition.	Optional		
4.5.	Describe current and future requirements, capabilities and benefits of the proposed system to provide multi-script support.	Optional		
4.6	Describe current and future requirements, capabilities and benefits of the proposed system to support future growth.	Optional		

5.   Data Requirements

Item #	Requirements	Need	Contractor response	O, X or N
5.1.	How much customization does the system require to meet requirements?	Strongly Desired		
5.1.1.	What skills and knowledge will be required by internal staff to customize, extend, maintain and administer the product.	Optional		
5.1.2.	Specify any activities that require the Proposer or other outside organization to maintain or administer the system.	Optional		
5.2.	Specify the hardware requirements for the proposed system?	Required		
5.3.	What operating system is proposed?	Required		
5.4.	What is the database technology of the proposed System?	Required		
5.5.	Does Crystal Reports provide any benefit to the proposed System?	Optional		
5.6.	Identify any of KCM's standard software that is not supported by the proposed System.	Strongly Desired		
5.7.	What is the proposed speech file format?	Strongly Desired		

Item #	Requirements	Need	Contractor response	O, X or N
5.8.	Describe the proposed failure resolution strategy.	Strongly Desired		
5.9.	Describe how the proposed system provides for uptime requirements.	Required		
5.10.	Describe proposed backup and recovery strategy.	Required		
5.11.	Describe the proposed system's security structure.	Required		
5.12.	Describe individually the server and database process for maintenance and how the proposed system provides continuous customer information.	Strongly Desired		
5.13.	Describe the application process for maintenance and how the proposed system provides continuous customer information.	Strongly Desired		
5.14.	Describe performance characteristics of the proposed system graphically and via data.	Required		
5.15.	Specify and describe coverage under the warranty period.	Required		
5.16.	Describe the proposed maintenance and support arrangement for the system.	Required		
5.16.1.	Describe the method of testing upgrades, fixes, patches and migrations on a test system prior to release to the production environment.	Required		

Item #	Requirements	Need	Contractor response	O, X or N
5.16.2.	Specify the proposed service level agreement that can be provided for this system.	Strongly Desired		
5.16.3.	Describe procedures and any costs associated with software upgrades.	Required		
5.17.	Describe the proposed test processes and approach for the system implementation.	Required		
5.18.	Describe training available for the proposed system.	Required		
5.19.	Describe any areas not completely addressed by documentation proposed as part of this system.	Strongly Desired		
5.19.1.	What help functions are available to the administrator and in what format?	Strongly Desired		
5.19.2.	What documentation will be provided as support for IT management of the hardware and software?	Desired		
5.20.	How will the implementation and support of the proposed system be conducted as a collaborated effort between KCM and contractor?	Strongly Desired		

6.   Contractor Qualifications

6	Requirements	Need	Contractor response	O, X or N
6.1.	Provide References as required.	Required		
6.1.a.	Identify which reference is a USA transit agency.	Required		
6.2.	Provide staff and resource information as required.	Required		
6.3.	What is the recommended approach to managing changes during the project?	Strongly Desired		
6.4.	What is the general project management methodology proposed for the project? Include a high-level project plan.	Required		
6.5.	Provide contractor information as required.	Required		

7. Pricing & Resources

7.1 Services

Provide the duration and hours required to compete Work.

Section	Work	Duration	Estimated Hours	Hourly Rate	Total Cost
See section "Work Description" for deliverables					
A.	IVR Implementation Design		_____	$_____	$_____
B.	System Installation		_____	$_____	$_____
C.	Base / Test System Configuration		_____	$_____	$_____
D.	Transit and Speech Data Population, Integration		_____	$_____	$_____
E.	Testing		_____	$_____	$_____
F.	Production Deployment, Documentation and Training		_____	$_____	$_____
G.	Acceptance		_____	$_____	$_____
Other					
	If applicable, the proposer will provide hourly rates for each role (e.g. project manager, developer, etc) to complete a deliverable.				

7.2 Hardware. Software, Materials

List the unit price for all hardware, perpetual licenses, and materials, including any alternative pricing models available.

	Description	Quantity	Unit Price	Total Cost
	Hardware (itemized)	_____	$_____	$_____
		_____	$_____	$_____
		_____	$_____	$_____
		_____	$_____	$_____
		_____	$_____	$_____
		_____	$_____	$_____
		_____	$_____	$_____
		_____	$_____	$_____
	Operating Systems	_____	$_____	$_____
		_____	$_____	$_____
		_____	$_____	$_____
	Software (itemized)	_____	$_____	$_____
		_____	$_____	$_____
		_____	$_____	$_____
		_____	$_____	$_____
		_____	$_____	$_____
		_____	$_____	$_____
	Material Documentation	_____	$_____	$_____
		_____	$_____	$_____
		_____	$_____	$_____
		_____	$_____	$_____
	Additional Materials (please specify)	_____	$_____	$_____
		_____	$_____	$_____
		_____	$_____	$_____
		_____	$_____	$_____
	If applicable, describe the price breakdown/model for each line item proposed, and estimated quantity required.			

7.3 Software and Hardware Maintenance

Provide support and maintenance costs for the IVR System. Describe any conditions and limitations.

Support & Maintenance Price				
	Description	**Price**	**Period of Maint.**	**Extended Price**
	Support & Maintenance based on software license model and period of maintenance.	$ _____		$ _____
		$		$ _____
	Support & Maintenance for any customized solution	$ _____		$ _____
		$ _____		$ _____

7.4 Future Work

Price any hardware, software, materials, services and added maintenance to address Future Work.

	Description	**Quantity**	**Unit Price**	**Total Cost**
	Software (itemized)	_____	$_____	$_____
		_____	$_____	$_____
		_____	$_____	$_____
		_____	$_____	$_____
		_____	$_____	$_____
		_____	$_____	$_____
	Hardware (itemized)	_____	$_____	$_____
		_____	$_____	$_____
		_____	$_____	$_____
	Operating Systems	_____	$_____	$_____
		_____	$_____	$_____
	Additional Materials (please specify)	_____	$_____	$_____
		_____	$_____	$_____
	If applicable, describe the price breakdown/model for each line item proposed, and estimated quantity required.			

Future Services					
Section	**Work**	**Duration**	**Estimated Hours**	**Hourly Rate**	**Total Cost**
			_____	$_____	$_____
	If applicable, the Proposer will provide hourly rates for each role (e.g. project manager, developer, etc) to complete a deliverable.				

	Description	**Quantity**	**Unit Price**	**Extended Price**
	Support & Maintenance based on software license model and period of maintenance.			
	Support & Maintenance for any customized solution.			

7.5 KCM Work

KCM Work					
Section	**Task**	**Duration**	**Estimated Hours**	**Hourly Rate**	**Total Cost**
a.	Data Interface Tasks				
			_____	$_____KCM	$_____
			_____	$_____KCM	$_____
			_____	$_____KCM	$_____
			_____	$_____KCM	$_____
b.	Voice Data Creation		_____	$_____KCM	$_____